THE

# HISTORY OF PHILOSOPHY.

VOL. II.

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ARISTOTLE: a Chapter from the History of Science, including Analyses of Aristotle's Scientific Writings. 1864.

The LIFE of GOETHE. New Edition, partly rewritten. 1863.

STUDIES in ANIMAL LIFE. With Illustrations. 1863.

SEASIDE STUDIES at ILFRACOMBE, TENBY, the SCILLY ISLES, and JERSEY. With Illustrations. Second Edition. 1860.

The PHYSIOLOGY of COMMON LIFE. With Illustrations. 2 vols. 1859.

THE

# HISTORY OF PHILOSOPHY

FROM THALES TO COMTE.

BY GEORGE HENRY LEWES.

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# THE HISTORY
OF
# PHILOSOPHY.

## THE TRANSITION PERIOD.

*Philosophy struggles to emancipate itself from Theology, and at the close of the Middle Ages finally succeeds.*

ANCIENT PHILOSOPHY reigned for about 1,000 years before its final deposition by Theology. An interval of another 1,000 years may be assigned as the Transition Period between Ancient and Modern Philosophy, i.e. from the extinction of the Greek schools, in the sixth century, to the separation of Philosophy from Theology, by Bacon and Descartes, in the sixteenth.

The peculiarity of this Transition Period is the constant struggle of Reason to assert and justify her independence—the claim of Philosophy to exist as a function of the human mind. And this claim, under varying fortunes, was made good. The struggle, long doubtful, ended in emancipation. We have seen how Philosophy, disengaging itself from Theology, successively tried to solve all the capital problems; and how, failing everywhere, because the Method pursued was one which made failure inevitable, it once more, throughout Christendom, relapsed under the dominion of Theology. We have now to see the inevitable disquiet of thought, produced by the manifest incompetence of Theology to answer questions beyond its reach; we have to see it again seeking the aid of Philosophy, and in this search gradually becoming more and more impatient of Theology, till a final separation of the two is once more proclaimed. Thus Bacon and Descartes stand in a position somewhat analogous to that of Thales; but they have the incalculable advantage of inheriting the experience of twenty centuries, and with it the incomparable advantage of a new Method. If, in the three centuries which have since elapsed, there has been an immense progress in all departments of positive knowledge, it has been owing to this new Method. If at the same time there has been little or no progress in Metaphysics, the latest ontological systems being little distinguishable from the Alexandrian, this has been owing to the retention of the old Method, and the persistence in unverifiable speculation.

Although the Transition, commonly known as the Middle Ages, extends over nearly a thousand years, we must, as Hegel says,* put on seven-league boots to traverse it. The nature and scope of this History, no less than my own imperfect acquaintance with the writings of the period, render it necessary for my survey to be rapid. I shall distribute it into three chapters:—

1. SCHOLASTICISM.
2. ARABIAN PHILOSOPHY.
3. THE RISE OF POSITIVE SCIENCE.

Although each section would require a separate work to do it justice, it can only receive here a slight and superficial treatment, enough to carry on the story of philosophic evolution. The student will find ampler detail in the works I shall have to cite.

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* HEGEL. *Gesch. d. Phil.* iii. 99

# CHAPTER I.

## *SCHOLASTICISM.*

### § I. GENERAL SURVEY.

BY Scholasticism is meant the philosophy which was dominant in the schools during the greater part of the Transition. It has long ceased to have any but an historical interest. That interest is, however, considerable, and would be more generally felt if History were studied in a scientific spirit.

As a Philosophy purporting to answer any of the great questions, its value is inappreciable, and its condemnation has long gone forth; nor can there be any wisdom in the attempt to reverse a verdict so absolute, so general, and so well founded. A few metaphysicians, clinging to their trust in the Subjective Method, and admiring the ingenuity and subtlety often displayed by the illustrious doctors of an early age, will energetically protest against the careless contempt exhibited by writers who are wholly ignorant of the works which they despise. And there is another reason for such a protest. The man who in this age can read with patience the works of an Abelard, an Aquinas, or an Albertus, must have a native affinity for dialectical ingenuity, which renders him incompetent to appreciate the grounds of the general neglect. Such a mind cannot perceive what is notorious to others: the failure of the Subjective Method; a failure made conspicuous by the success of the Objective Method. It is this failure which has closed the folios of Scholasticism; the depressing weariness and impatience which cause us to push them aside after each new effort at study, arise, I conceive, from our sense of the intrinsic futility of the questions discussed, and the mode of discussing them, even more than from the arid and often frivolous poverty of the style. It is the geography of an undiscoverable country, described without splendour of imagination, and without wealth of suggestive analogy.

The work of the schools had to be done, but it is at an end. Their folios are fossils. Monstrous and lifeless shapes of a former world, having little community with the life of our own, they have for us an interest similar to that yielded by the megatherium, and the dinornis. We are no longer perplexed by their problems, but we are interested in the fact that their problems did once perplex the most eminent minds.

We must not forget that to Scholasticism we owe the emancipation of Philosophy. It was the first, and at that period the only possible, solvent of Theology. By establishing the claim of Reason—though only as a handmaid to Faith, *ancilla theologiæ*—it brought into vigorous activity the great instrument Doubt, the instrument of research. By its own failure in solving the questions it had raised, it prepared the way for the negative, but valuable solutions of Science. Men learned in reasoning freely to reason well. It was a great thing in those ages to reason on abstract subjects at all.

The universal dominion of Rome, fruitful in so many respects, was fatal to Science, then in its infancy. The disruption of the Empire, also in many respects beneficial to Humanity, was fatal to Literature. Rome did her work, and left her legacy; but that legacy, so valuable as *discipline*, was less valuable as *culture*. Her dominion was succeeded by the dominion of the Church; and the Church, both by instinct and by precept, was opposed to Science and Literature. It is right that we should understand this. The great benefits which the Church conferred on Humanity can be denied only by a narrow philosophy; but her benefits were not unalloyed; and the disastrous influence she exercised on Letters and Science may be estimated by the simple fact that, during the nine centuries of her undisputed dominion, not a single classic writer, not a single discoverer whose genius enlarged the intellectual horizon, not a single leader of modern thought arose to dignify her reign. The darkness of the Dark Ages was deepest when the power of the Church was least disputed: that darkness began to break when the doctrines of the Church began to be called in question; the dawn was coeval with an insurrection.

Nor could it have been otherwise. The Church claimed spiritual supremacy, and aiming at the reconstruction of society on a basis of spiritual unity, was necessarily opposed to the pretensions of spiritual rivals. It held the highest truth in charge; with the highest it also claimed the lowest. Opposed as it was to this world, striving to regulate this life with a view to the life to come, its *other-worldliness*, while upholding an ideal before men's eyes, had the disadvantage of discrediting the real. Profane knowledge was, therefore, doubly despised; it was despised because it related to things of this world, and it was despised because it gave no insight into the next. It was dreaded even more than it was despised, dreaded because it claimed a share in the government of men's minds. The indignation which has so often vituperated the Church, because the Church was intolerant, would have been better directed against untutored human nature; for it is a grave error, to suppose that bigotry is the monopoly of theologians, or that polemical unfairness is less conspicuous in science and philosophy than in theology. The distinguishing characteristic of theological intolerance, is its belief in itself as a virtue. The conviction of finality fans into a theological flame the embers of bigotry that slumber in us all. Without rare largeness of mind, or exceptional sweetness of temper, we cannot be patient when our beliefs are opposed. Naturally we are persuaded of their truth; otherwise they would not be our beliefs; and the very love of truth, to which ouropponent appeals, urges us to stand firmly by our (true) opinions. The only thing that could make us hesitate is an abiding consciousness of fallibility: and this is found in few minds only —those by nature sceptical and unstable, or by long training tutored into circumspection. In proportion to the importance we attach to the opinion our irritation at doubt increases; and when our opinions have the consecration of deep feelings and large interests, it is inevitable that we should be alarmed and pained by contradiction. Hence the very word heresy, which simply means private judgment, has in all times borne an opprobrious connotation.*

The Church was dominant; and Theology, in all respects, opposed to the development of the intellect and the enlargement of knowledge, had to be dissolved by Metaphysics before Science could gain a hearing. It was Scholasticism which acted as the solvent. And here we may see an illustration of Comte's law of evolution. An abrupt transition from theological explanations of the facts of the universe to scientific explanations—omitting the intermediate stage of Metaphysics—would have been disastrous. The Church held the position of spiritual headship. Science could not have grown up under its dominion, for no sooner would their essential rivalry have become manifest than the Church would at once have suppressed the audacious innovation of rational research.

An apparent contradiction may be seen in the fact that the Arabians had no such intermediate stage, but passed over to Science almost as soon as they entered upon intellectual inquiry. The contradiction is only apparent, not real. Science was cultivated by sceptical philosophers under sceptical emirs and caliphs. But this sudden burst of a novel enthusiasm was succeeded by centuries of absolute apathy. Islamism where it had been weak grew strong.

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* 'The word heresy is Greek,' says HOBBES, 'and signifies a *taking* of anything, particularly the taking of an opinion. After the study of philosophy began in Greece and philosophers disagreeing among themselves had started many questions not only about things natural, but also moral and civil, because every one *took* what opinion he pleased, each several opinion was called a *heresy*, which signified no more than a private opinion, without reference to truth or falsehood.'—Quoted by RICHARDSON: *English Dictionary*.

Caliphs and emirs, no less than philosophers, fell under the dominion of an energetic priesthood, and under that rule all intellectual activity withered. Theology in Europe grew weaker and weaker under the dissolving agency of Metaphysics. In Islam it grew stronger and stronger because its chief antagonist was Science, and *that* was too imperfectly matured to hold its place against Theology.

The alliance with, and subordination to, Theology, which constitute the fatal weakness of Scholasticism considered as Philosophy, constitute its great value as an agent in the evolution of thought. No wider reach was possible at that epoch. If Reason was to exercise its prerogative in a society governed by a Church, nothing but such an issue as Scholasticism could be permitted it. The dogmas were fixed. The solutions were found. Nothing remained for research, except the reconciliation of these dogmas with Reason. A new solution would have been a heresy. Philosophers were allowed to seek new routes; but they were not allowed to arrive at a new conclusion. It was something, however, to be allowed to take new routes. They thus trained themselves for travel.

'Philosophy,' said Tertullian, with perfect truth, 'is the patriarch of all the heresies.' In travelling along new roads it was inevitable that minds should arrive at new conclusions. The Church was alert. It scented a taint from afar. No sooner was danger signalled than persecution followed. This vigilance and violence greatly obstructed the free movement of thought. No questions, however seemingly remote, were long permitted to hold themselves aloof from theological direction. Plato and Aristotle could debate whether general terms were only terms or had also corresponding objects, and they debated this under no priestly dictation; but William of Champeaux and Abelard could only debate it under the ominous shadow of St. Peter's.

And yet this theological obstruction was also in one sense an aid. In those days of ignorance and incurious apathy there was an advantage in having the stimulus of dogmas which for all men had profound interest. On subjects remote from obvious and daily needs, our imperfect intellects need the stimulus of passion before they will undergo the toil of research. In those days, far more than in our own, men would not have given their lives to the discussion of abstruse and abstract questions unless sustained by the passionate fervour of theological controversy.

Something may also be said in favour of that art of disputation against which so much eloquence has been expended. It was doubtless carried to a dangerous and ridiculous excess, and seems utterly worthless and wearisome now. Yet it was to the athletes of the Middle Ages what parliamentary debate has been to the English: a good, though by no means an unmixed good, and far from the best. We may admit that the art was ineffectual as an instrument of research, and was so far injurious that it withdrew men's energies from patient contemplation of phenomena, and employed them in the easy but illusory manipulation of formulas, thus rearing curious exotics sterile of all flowers or fruit. Nevertheless, in those days any intellectual activity which could escape on the one hand from the oppression of barbarian indifference, and on the other from theological dictation, was of value: and as the admirable historian of Scholasticism remarks: 'En pressant avec trop d'énergie, dans l'ardeur de la controverse, les problèmes de l'ordre logique, on devait nécessairement en faire sortir des problèmes ontologiques, psychologiques, métaphysiques. Est-ce que l'esprit humain, une fois engagé dans la voie de la recherche, peut s'arrêter avant d'être satisfait, avant de toucher le but, ou du moins avant de croire l'avoir touché?'*

## § II. SCOTUS ERIGENA AND ANSELM OF CANTERBURY.

So much by way of general consideration. Descending to particulars, we find Scholasticism to be not a doctrine but a movement. It began with the schools opened by Charlemagne.* With these schools it flourished, and with them it declined. The instruction being oral, an art of disputation naturally arose; and the instruction was necessarily oral in the absence of a press. When the invention of printing furnished combatants with a wider arena and more effective weapons, the importance of the schools declined. Philosophy became secular, and passed from the priests to the public. But when the only means of addressing audiences was from professional chairs, students passed over the seas and over the Alps to catch the words which fell from the lips of some renowned teacher. Paris was for many years the Athens of Scholasticism. The diploma of philosophy was given there. He who had not listened to its professors was scouted as ignorant. From the remote corners of Britain and the fastnesses of Calabria, from Spain and Germany, from Italy and Poland, came the young clerks who felt within them the restlessness of thought. They started on foot, alone, animated by high hopes, to brave the many perils of that journey, glad if they could sometimes gain the protection of a troop of soldiers, happy if a night's shelter could be found at a monastery, or, failing that, they would urge their claim as scholars to the hospitality of private citizens—a claim rarely denied them.†

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* HAURÉAU: *De la Philosophie Scolastique*, 1850, i. 419.

Of the many renowned teachers only a few names have now a familiar sound. The list is opened by Scotus Erigena, with whom, in the middle of the ninth century, Scholasticism may be said to begin, if any definite beginning can properly be assigned to it.

And here, at its very origin, we find an element at work which was essential to progress, and without which the great subsequent influences of Arabian and Greek writers would have been powerless—the element of Doubt. Timidly as this potent weapon may have been handled, disguised as scepticism was under various subterfuges, conscious and unconscious, nevertheless its presence is unmistakable. Appearing in the shape of a feeble protest against Authority, and appealing to a higher wisdom than even that of the Fathers, it secured its footing in the domain of intelligence. The invocation of Reason, under no matter what disguise, is only the confused cry of Doubt. Faith has no need of Reason. If such aid be sought it can only be to satisfy the unquiet intellect which cannot escape doubts. Scholasticism, as we have said, was the movement of the intellect to justify by Reason several of the dogmas of Faith. Here to excuse was to accuse.

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* 'Dès l'ouverture des écoles du moyen âge ce titre fut donné à tous les professeurs chargés d'instruire la jeunesse. Employé adjectivement, il servit à désigner les diverses branches de leur enseignement, et l'on dit *la théologie scolastique, l'histoire scolastique, la philosophie scolastique*. En ce sens la philosophie scolastique est la philosophie professée dans les écoles du moyen âge.' —HAURÉAU, i. 7.

† HAURÉAU, i. 24.

In assigning this position to Scotus Erigena, I do not of course mean that he was the first doubter in the Christian empire, nor that he was in any way a concealed rationalist. Some modern historians probably need the correction suggested by Mr. Maurice; they may have fallen into the common error of reading modern meanings into ancient texts when they attribute to Erigena a rationalistic spirit. Nevertheless, under any interpretation of his words, there is great significance in the fact that Erigena could write thus:—

'Thou art not ignorant,' says the master, 'that I think that which is first in nature is of greater dignity than that which is first in time.' 'This,' says the disciple, 'is known to almost all.' 'We have learnt further,' says the master, 'that Reason is first in nature, and Authority in time. For although nature was created together with time, Authority did not begin to exist from the beginning of nature and time. But Reason has arisen with nature and time from the beginning of things. Reason itself teaches this. For Authority no doubt hath proceeded from Reason, but Reason not by any means from Authority. And all Authority which is not approved by true Reason turns out to be weak. But true Reason, seeing that it stands firm and immutable, protected by its own virtues, needs not to be strengthened by any confirmation of Authority. True Authority, indeed, seems nothing but Truth united by the power of Reason, and transmitted in letters by the holy Fathers for the benefit of posterity.' *

M. Guizot cites the following passages also from Erigena: 'We must not adduce the opinions of the holy Fathers unless when necessary to strengthen reasoning in the eyes of men who, unpractised in reasoning, yield rather to Authority than to Logic.' 'The safety of faithful souls consists in believing that which there is reason for affirming, and in comprehending that which there is reason for believing.'

It is possible, nay extremely probable, that Erigena may have had a very different conception from that which his words convey to our minds. 'The *ratio*,' according to Mr. Maurice, 'which was coeval with nature, and to which all things in time are secondary, is that fixed Purpose, that Eternal Reason and Order, which man's reason is created to investigate and perceive. Authority must not be set before this Reason precisely because it is the result of a Reason which is working under temporal conditions, though this Authority may be most helpful in assisting the reason of any individual man in his efforts to break loose from its time boundaries, and to enter into the truth of which it is in search.'

By subtleties like these Erigena may have disguised from himself the tendency of his teaching, but the instinct of the Church was not thus to be led astray. It felt the presence of an enemy. Horus, bishop of Lyons, thus rang the tocsin: 'There have reached us the writings of a certain vain and upstart man, who disputing on the questions of prescience and predestination by the aid, as he boasts, of purely human and philosophic reasonings, has dared, without adducing the authority of the Scriptures and the Fathers, to affirm certain things, as if they were to be accepted on the sole strength of his presumptuous assertion. . . Nevertheless, as we hear, this man is admired by many a one learned and versed in the wisdom of the schools, and who by his vain and pernicious eloquence so subjugates his auditors, that they no longer humbly submit themselves to the divine Scriptures, nor to the authority of the Fathers, but prefer to follow his fantastic reveries.' *

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* Cited by MAURICE: *Mediæval Philosophy*, 1859, p. 63.

Erigena made himself the mouthpiece of those who sought a rational basis, however narrow, for their convictions. This idea once suggested could not be disregarded. The Church thundered against it; but the very echoes of that thunder only aroused a more wide-spread and prolonged attention to the idea. The pretension of Reason once asserted was too gratifying to the intellect not to find large acceptance. Erigena might be silenced; Berengarius was silenced; but Roscellinus appeared, and after him, with greater energy and immense effect, Abelard. Even Anselm, the saintly archbishop, helped the good cause in an indirect way: he consecrated the privileges of Reason by showing the harmony between Reason and Faith.

In the introduction to his *Monologium*, Anselm tells us that his brethren frequently requested him to set down in writing the ideas he had communicated to them in conversation. 'They begged me to borrow no important argument from Scripture, but to employ the ordinary arguments such as might be intelligible to all, to remain faithful to the rules of simple debate, seeking no other proof than such as resulted necessarily from the logical sequence of evidence.' He consented; yet he declared that in his work he has advanced nothing which is not scrupulously accordant with the writings of the Fathers, principally St. Augustin. The dread of heresy, natural to such a man, is visible throughout; and at the close of his invocation, which forms the first chapter of the *Prosologium*, he says: 'I do not attempt, O Lord, to penetrate thy profundity, because in no sense can I compare with it my intellect; but I do desire to comprehend thy truth, even though imperfectly, that truth which my heart believes and cherishes. For I seek not to comprehend in order to believe, but I believe in order to comprehend. I believe because if I did not believe I should never comprehend.' *

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* Bishops in the ninth century seem to have been as powerful in debate as bishops in the nineteenth.

Faith was the regent of his philosophy. Human reason being incompetent to reach the heights of Revelation, the idea of disputing on any revealed doctrines was culpable temerity. The function of reason was to explain, not to dispute, the dogmas accredited by the Church. Hence the sub-title of his celebrated treatise *Prosologium* (in which he sets forth the *à priori* demonstration of the existence of God in terms scarcely distinguished from those subsequently used by Descartes) runs thus: *seu fides quærens intellectum.*†

Nevertheless, it is noticeable that Anselm always appeals to evidence and demonstration, not to authorities. It is in this that he is distinguished from the orthodox conservative minds of his age. The insurgent mind of Abelard took up the same position, but with more emphasis and ostentation. Him we may now consider more closely.

## § III. Abelard.

The name of Abelard has been immortalised by association with that of a noble woman. It is because Heloise loved him, that posterity feels interested in him. M. Michelet indeed thinks that to Abelard she owes her fame: 'without his misfortunes she would have remained obscure, unheard of;' and in one sense this is true; but it is also true that, without her love, Abelard would have long ago ceased to inspire any interest: for his was essentially a shallow, selfish nature. His popularity was rapid, loud, and scandalous. He was fitted for it, lived for it. But many a greater name has faded from the memories of men; many a once noisy reputation fails to awaken a single echo in posterity. Apart from the consecration of passion and misfortune, there is little in his life to excite our sympathy. Viewed in connection with Heloise he must always interest us; viewed away from her, he presents the figure of a quick, vivacious, unscrupulous, intensely vain Frenchman. But, in several respects, he represents the philosophic struggle of the twelfth century; and in this light we may consider him.

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* 'Neque enim quæro intelligere ut credam, sed credo ut intelligam. Nam et hoc credo, quia nisi credidero, non intelligam.' And in his *Epistles*, he says, 'Christianus per fidem debet ad intellectum proficere, non per intellectum ad fidem accedere, aut si intelligere non valet, a fide recedere.'

† The *Prosologium*, with the little tract in which Gaunilon pointed out the fundamental error of Anselm in concluding that whatever was true of ideas must be true of realities, and Anselm's reply, are among the rare scholastic works which, as far as my experience extends, a modern can read with the same pleasure as he would read any recent metaphysical treatise. They are subtle without being frivolous or wearisome. A translation of all three, together with the *Monologium*, may be found in Bouchitté: *Le Rationalisme Chrétien à la fin du XI$^e$ siècle.* Paris, 1842.

He was born in Brittany in 1079, of a noble family, named Bérenger. The name of Abelard came to him later. His master laughingly noticed his superficial manner of passing over some studies, filled as he was with others, and said, 'When a dog is well filled, he can do no more than lick the bacon.' The word *to lick*, in the corrupt Latin of that day, was *bajare*, and *Bajolardus* became the cognomen of this 'bacon-licking student' among his comrades, which he converted into *Habelardus*, 'se vantant ainsi de posséder ce qu'on l'accusait de ne pouvoir prendre.'* In the ancient writers the name is variously spelled, as Abailardus, Abaielardus, Abaulardus, Abbajalarius, Baalaurdus, Belardus, and in French as Abeillard, Abayelard, Abalard, Abaulard, Abaalary, Allebart, Abulard, Beillard, Baillard, Balard, and even Esbaillart; which variations seem to imply that the old French writers were as accurate in their spelling of their countrymen's names as their descendants are in spelling English and German names.

Abelard's father joined to his knightly accomplishments a taste for literature, as literature was then understood;

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* CHARLES DE RÉMUSAT: *Abélard*, Paris, 1845, i. 13. This valuable monograph contains the fullest biography of Abelard and the best analysis of his works yet published. Indeed, before M. COUSIN published the works of Abelard, in 1836, every account of the philosophy of this thinker was necessarily meagre and erroneous.

and this taste became so dominant in the mind of the youth, that he renounced the career of arms altogether for that of learning. Dialectics was the great science of that day, almost rivalling in importance the Theology which it served and disturbed by turns. It was an exercise of intellectual ingenuity, for which this youth manifested surprising aptitude. He travelled through various provinces disputing with all comers, like a knight-errant of philosophy, urged thereto by the goading desire of notoriety. This love of notoriety was his curse through life. At the age of twenty he came to Paris, hoping there to find a fitting opportunity of display—an arena for his powers as a disputant. He attended the lectures of William of Champeaux, the most renowned master of disputation, to whom students flocked from all the cities of Europe. The new pupil soon excited attention. The beauty of his person, the easy grace of his manner, his marvellous aptitude for learning, and still more marvellous facility of expression, soon distinguished him from the rest. The master grew proud of his pupil, loved him through this pride, and doubtless looked on him as a successor. But it soon became evident that the pupil so quick at learning did not sit there merely to learn; he was waiting for some good opportunity of display, waiting to attack his venerable master, whose secret strength and weakness he had discovered. The opportunity came; he rose up, and in the midst of all the students provoked William of Champeaux to discussion, harassed, and finally vanquished him. Rage and astonishment agitated the students; rage and terror the master. The students were indignant because they clearly saw Abelard's motive.

Abelard dates the origin of all his woes from this occasion, when he created enmities which pursued him through life; and, with a sophistication common to such natures, he attributes the enmities to envy at his ability, instead of to the real causes, namely his inordinate vanity and selfishness. For a time, indeed the rupture with his master seemed successful. Although only two-and-twenty years of age he

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established a school of philosophy at Melun, which became numerously attended, and spread his name far and wide. Emboldened by success, he removed his school still nearer to Paris—to Corbeil—in order, as he frankly tells us, that he might be more importunate to his old master. But his rival was still powerful, aged in science and respect. Intense application was necessary, and in the struggle Abelard's overtasked energies gave way. He was commanded by the physicians to shut up his school, and retire into the country for repose and fresh air.

In two years he returned to Paris, and saw with delight that his reputation had not been weakened by absence, but that on the contrary his scholars were more eager than ever. His old antagonist, William of Champeaux, had renounced the world, and retired to a cloister, where he opened the school of Saint-Victor, afterwards so celebrated. His great reputation, although suffering from Abelard's attacks, drew crowds. One day, when the audience was most numerous, he was startled by the appearance of Abelard among the students, come, as he said, to learn rhetoric. William was troubled, but continued his lecture. Abelard was silent until the question of 'Universals' was brought forward, and then suddenly changing from a disciple to an antagonist, he harassed the old man with such rapidity and unexpectedness of assault that William confessed himself defeated, and retracted his opinion. That retractation was the death of his influence. His audience rapidly dwindled. No one would listen to the minor points of Dialectics from one who confessed himself beaten on the cardinal point of all. The disciples passed over to the victor. When the combat is fierce between two lordly stags, the hinds stand quietly by, watching the issue of the contest, and if their former lord and master, once followed and respected, is worsted, they all without hesitation pass over to the conqueror, and henceforth follow him. Abelard's school became acknowledged as pre-eminent; and, as if to give his triumph greater emphasis, the professor to whom William of Champeaux had resigned his chair was either so intimidated by Abelard's audacity, or so subjugated by his ability, that he offered his chair to Abelard, and ranged himself among the disciples.

Abelard was not content even with this victory. Although undisputed master in dialectics, he could not hear of any other teacher without envy. A certain Anselm taught Theology at Laon with immense success; and this was enough to trouble Abelard's repose; accordingly to Laon he went, ridiculed Anselm's style, laughed at the puerile admiration of the scholars, and offered to surpass the master in the explanation of Scripture. The scholars first laughed, then listened, and admired. Abelard departed, having excited anarchy in the school, and anguish in the heart of the old man.

His career, at this period, was brilliant. His reputation had risen above that of every living man. His eloquence and subtlety charmed hundreds of serious students, who thronged beneath the shadows of the cathedral in ceaseless disputation, thinking more of success in dispute than of the truths involved. M. Guizot estimates these students at not less than five thousand— of course not all at the same time. Amidst these crowds, Abelard might be seen moving with imposing haughtiness of carriage, not without the careless indolence which success had given: handsome, manly, gallant-looking, the object of incessant admiration. His songs were sung in the streets, his arguments were repeated in cloisters. The multitude reverentially made way for him as he passed; and from behind their window-curtains peeped the curious eyes of women. His name was carried to every city in Europe. The Pope sent hearers to him. He reigned, and he reigned alone.*

It was at this period that the charms and helpless position of Heloise attracted his vanity and selfishness. He resolved to seduce her; resolved it, as he confesses, after mature deliberation. He thought she would be an easy victim;

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* 'Cum jam me solum in mundo superesse philosophum æstimarem.'—*Epist.* i p. 9.

and he who had lived in abhorrence of libertinage—*scortorum immunditiam semper abhorrebam*—felt that he had now attained such a position that he might indulge himself with impunity. We are not here attributing hypothetic scoundrelism to Abelard; we are but repeating his own statements. 'I thought, too,' he adds, 'that I should the more easily gain the girl's consent, knowing as I did to how great a degree she both possessed learning and loved it.' He tells us how he 'sought an opportunity of bringing her into familiar and daily intercourse with me, and so drawing her the more easily to consent to my wishes. With this view I made a proposal to her uncle, through certain of his friends, that he should receive me as an inmate of his house, which was very near to my school, on whatever terms of remuneration he chose; alleging as my reason that I found the care of a household an impediment to study, and its expense too burdensome.' The uncle, Fulbert, was prompted by avarice, and the prospect of gaining instruction for his niece, to consent. He committed her entirely to Abelard's charge, 'in order that whenever I should be at leisure from the school, whether by day or by night, I might take the trouble of instructing her; and should I find her negligent, use forcible compulsion. Hereupon I wondered at the man's excessive simplicity, with no less amazement than if I had beheld him entrust a lamb to the care of a famishing wolf; for in thus placing the girl in my hands for me not only to teach, but to use forcible coercion, what did he do but give full liberty to my desires, and offer the opportunity, even had it not been sought, seeing that, should enticement fail, I might use threats and stripes in order to subdue her?'*

The crude brutality of this confession would induce us to suppose it was a specimen of that strange illusion which often makes reflective and analytic minds believe that their enthusiasm and passions were calculations, had we not sufficient evidence, throughout Abelard's life, of his intense selfishness and voracious vanity. History has no other such example of passionate devotion filling the mind of a woman for a dialectician. It was dialectics he taught her; since he could teach her nothing else. She was a much better scholar than he; in many respects better read. She was perfect mistress of Latin, and knew enough Greek and Hebrew to form the basis of her future proficiency. He knew nothing of Greek or Hebrew, although all his biographers, except M. Rémusat, assume that he knew them both: M. Michelet even asserting that he was the only man who did then know them.* In the study of arid dialectics, then, must we imagine Abelard and Heloise thrown together; and, in the daily communion of their minds, passion ripened, steeped in that vague, dream-like, but intense delight, produced by the contact of great intelligences; and, as the Spanish translator of her letters says, 'buscando siempre con pretexto del estudio los parages mas retirados'—they sought in the still air and countenance of delightful studies a solitude more exquisite than any society. 'The books were open before us,' says Abelard, 'but we talked more of love than philosophy, and kisses were more frequent than sentences.' †

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* *Epist.* i.

In spite of the prudential necessity for keeping this intrigue secret, Abelard's truly French vanity overcame his prudence. He had written love-songs to Heloise; and, with the egotism of a bad poet and indelicate lover, he was anxious for these songs to be read by other eyes besides those for whom they were composed; anxious that other men should know his conquest. His songs were soon bandied about the streets. All Paris was in the secret of his intrigue. That which a delicate lover, out of delicacy, and a sensible lover, out of prudence, would have hidden from the world, this coxcomb suffered to be profaned by being bawled from idle and indifferent mouths.*

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* He knew a few terms current in the theological literature of the day, but had he known more, his ostentatious vanity would have exhibited the knowledge on all occasions. He expressly declares, moreover, that he was forced to read Greek authors in Latin versions. See COUSIN'S edition of the *Œuvres Inédites*, p. 43; also *Dialectica*, p. 200, where the non-existence of Latin versions is given as the reason of his ignorance of what ARISTOTLE says in his *Physics* and *Metaphysics*.

† *Epist.* i. p. 11. He adds, with his usual crudity: 'Et sæpius ad sinus quam ad libros reducebantur manus.'

At length even Fulbert became aware of what was passing under his roof. A separation took place; but the lovers continued to meet in secret. Heloise soon found herself pregnant, and Abelard arranged for her an escape to Brittany, where she resided with his sister, and gave birth to a son. When Fulbert heard of her flight, he was frantic with rage. Abelard came cringing to him, imploring pardon, recalling to him how the greatest men had been cast down by women, accused himself of treachery, and offered the reparation of marriage provided it were kept secret; because his marriage, if made known, would be an obstacle to his rising in the Church, and the mitre already glimmered before his ambitious eyes. Fulbert consented. But Heloise, with womanly self-abnegation, would not consent. She would not rob the world of its greatest luminary. 'I should hate this marriage,' she exclaimed, 'because it would be an opprobrium and a calamity.' She recalled to Abelard various passages in Scripture and ancient writers, in which wives are accursed, pointing out to him how impossible it would be for him to consecrate himself to philosophy unless he were free: how could he study amid the noises of children and domestic troubles of a household? how much more honourable it would be for her to sacrifice herself to him! She would be his concubine. The more she humiliated herself for him the greater would be her claims upon his love; and thus she would be no obstacle to his advancement, no impediment to the free development of his genius.

'I call God to witness,' she wrote many years afterwards,

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* That this vanity and indelicacy are eminently French, though unhappily not exclusively French, will be admitted by all who are conversant with the life and literature of that remarkable people. This national peculiarity had not escaped the piercing gaze and healthy instincts of MOLIÈRE, who has an admirable passage on it: see Arnolphe's monologue, act iii. scene iii. of *L'École des Femmes*.

'that if Augustus, the emperor of the world, had deemed me worthy of his hand, and would have given me the universe for a throne, the name of your concubine would have been more glorious to me than that of his empress: *carius mihi et dignius videretur tua dici meretrix quam illius imperatrix.*'

Gladly would Abelard have profited by this sublime passion; but he was a coward, and his heart trembled before Fulbert. He therefore endeavoured to answer her arguments; and she, finding that his resolution was fixed—a resolution which he very characteristically calls a bit of stupidity, *meam stultitiam*—burst into tears, and consented to the marriage, which was performed with all secrecy. Fulbert and his servants, however, in violation of their oath, divulged the secret. Whereupon Heloise boldly denied that she was married. The scandal became great; but she persisted in her denials, and Fulbert drove her from the house with reproaches. Abelard removed her to the nunnery of Argenteuil, where she assumed the monastic dress, though without taking the veil. Abelard furtively visited her.* Meanwhile Fulbert's suspicions were roused, lest this seclusion in the nunnery should be but the first step to her taking the veil, and so ridding Abelard of all impediment. Those were violent and brutal times, but the vengeance of Fulbert startled even the Paris of those days with horror. With his friends and accomplices he surprised Abelard sleeping, and there inflicted that atrocious mutilation, which Origen in a moment of religious frenzy inflicted on himself.

In shame and anguish Abelard sought the refuge of a cloister. He became a monk. But the intense selfishness of the man would not permit him to renounce the world without also forcing Heloise to renounce it. Obedient to his commands, she took the veil; thus once again sacrificing herself to him whom she had accepted as a husband with unselfish regret, and whom she abandoned in trembling, to devote herself henceforth without hope, without faith, without love, to her divine husband.

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* He adds, 'Nosti . . . quid ibi tecum mea libidinis egerit intemperantia in quadam etiam parte ipsius refectorii. Nosti id impudentissimè tunc actum esse in tam reverendo loco et summæ Virgini consecrato.'—*Epist.* v. p. 69.

The gates of the convent closed for ever on that noble woman whose story continues one of pure heroism to the last; but we cannot pause to narrate it here. With her disappearance, the great interest in Abelard disappears; we shall not therefore detail the various episodes of his subsequent career, taken up for the most part with quarrels—first with the monks, whose dissoluteness he reproved, next with theologians, whose hatred he roused by the 'heresy' of reasoning. He was condemned publicly to retract; he was persecuted as a heretic; he had ventured to introduce Rationalism,—or the explanation of the dogmas of faith by Reason,—and he suffered, as men always suffer for novelties of doctrine. He founded the convent of Paraclete, of which Heloise was the first abbess, and on the 21st of April, 1142, he expired, aged sixty-three. 'Il vécut dans l'angoisse et mourut dans l'humiliation,' says M. de Rémusat, 'mais il eut de la gloire et il fut aimé.'

There are two points of view under which the teachings of Abelard are of interest to us. The first is his attempt to emancipate Reason; the second his attempt to disengage the doctrine of Nominalism from the heretical disgrace under which it had fallen in the hands of Roscellinus.

Carrying out more boldly and more effectively the principle started by Erigena, he brought forward Logic as an independent power in the great arena of theological debate. *Ponit in cœlum os suum*, says St. Bernard, with indignation, writing to the Pope, *et scrutatur alta Dei*. It was a dangerous and damnable imprudence; and drew on him from St. Bernard this terrible accusation: *transgreditur fines quos posuerunt patres nostri*; to have passed beyond the limits set by our forefathers is, in all ages and in all nations, to have braved the reprobation of the timid and the old. Abelard braved it.

Supported, as he thought, by thousands of partisans, Abelard assumed an attitude of offence, almost of disdain.

Unconscious of his real danger, he published the substance of his Lectures in a work called *Introductio ad Theologiam,* in which he undertook to demonstrate by Reason the dogmas of Faith, and promulgated the then audacious opinion, that all dogmas should be presented under a rational form. That this was very far from being acceptable, may be read not only in his condemnation, but also in the passage of his *Dialectica*, where he says that his rivals declared it not permissible in a Christian to treat even of Dialectics, because Dialectics was not only incapable of instructing any one in the faith, but disturbed and destroyed faith by the complication of its arguments.*

This commencement, feeble though it may have been, marks a new epoch in the development of speculation. The struggle of Reason against Authority, which was reopened by Abelard, has not yet closed. 'My disciples,' he says in his Introduction, 'asked me for arguments drawn from philosophy such as reason demanded, begging me to instruct them that they might understand and not merely repeat what was taught them; since no one can believe anything until he has first understood it; and it is ridiculous to preach to others what neither teacher nor pupil understand.'

Not content with this revolutionary principle, Abelard further 'trangressed the limits of his forefathers' by the composition of the treatise *Sic et Non*,† the object of which was to cite the passages of Scripture and the Fathers *pro* and *con.* upon every important topic: this collocation of contradictory statements given by the highest possible authorities, was meant, as Abelard distinctly informs us, to train the mind to vigorous and healthy doubt, in fulfilment of the injunction, 'Seek, and ye shall find; knock, and it shall be opened unto you.' 'Dubitando enim ad inquisitionem venimus; inquirendo veritatem percipimus; juxta quod et Veritas ipsa *Quærite*, inquit, *invenietis; pulsate, et aperietur vobis*.'* Whatever his intention may have been, the result of such a work was clearly foreseen by theological teachers, who regarded doubt as damnable, and would not tolerate it under the plausible aspects of intellectual gymnastics, or the love of seeking for truth. But theologians were unable to arrest the development of speculation. Doubt began; disputation waxed stronger; logic played like lambent flame around the most sacred subjects; Scholasticism entered every city in Europe, and filled it with subtle disputants.

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* *Dialectica*, p. 434.

† It is printed in Cousin's edition, but with omissions. The entire work was published in Germany, 1841, under this title: *Petri Abaelardi Sic et Non; primum integrum ediderunt E. L. Henke et G. S. Lindenkohl.*

During the centuries which succeeded, the question of Nominalism was constantly in debate; and beside it many others so remote, and, to modern apprehensions, so frivolous, that few historians boast of more than superficial acquaintance with mediæval philosophy, and few mention it without scorn. To name but one topic, what does the reader think of a debate *utrum Deus intelligat omnia alia a se per ideas eorum, an aliter?* What does he think of men wasting their energies in trying to convince each other of the true process by which God conceived ideas—discussing, with ardour and unmisgiving ingenuity, topics which are necessarily beyond all possible demonstration? Nevertheless, absurd as such discussions were, they have found, even in modern times, legitimate successors; and the laborious futility of the Schoolmen has been rivalled by the laborious futility of the German metaphysicians.

## § IV. The Great Dispute.

The second point to which Abelard calls our attention, is the dispute which agitated the schools during the whole Middle Ages, the dispute as to the nature of Genera and Species, which M. Rémusat truly says is the longest, most animated, and certainly the most abstract controversy, that has ever agitated the human mind, and the one which now seems the least likely to have interested men so deeply. The secret of this interest is the theological bearing which the question early received. It had been debated in Greece as an abstract question. It was now debated as one deeply implicating the dogmas of Faith.

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* Page 17 of the edition last named.

M. Cousin is guilty of but a slight exaggeration, when he says that the whole Scholastic Philosophy issued out of a phrase in Porphyry, as interpreted by Boethius. This is the passage in Boethius: 'The object of Porphyry in this work, is to prepare the mind for the easy understanding of the Predicaments, by treating of the five things or words (tractando de quinque rebus vel vocibus), namely, genus, species, difference, property and accident; the knowledge of which leads to the knowledge of the Predicaments.' By the phrase *rebus vel vocibus*, he was understood to signify that things and words were mutually convertible, to discourse of one was to discourse of the other. But is this so? Does the word Genus, or the word Species, represent an actual something which exists objectively, or is it merely a name which designates a certain collection of individual things? Centuries had passed without any one perceiving more than a grammatical or logical importance in the alternative. 'On ne l'entrevit guère qu'au milieu du onzième siècle. Mais à peine livré à l'examen les deux solutions contraires qu'il présentait se partagèrent les esprits; et bientôt, agité en tous sens et fécondé à la fois par la témérité et par la sagesse, il en sortit à la fin du onzième siècle, et surtout au commencement du douzième, la philosophie scolastique dans toute son originalité et sa grandeur.'*

Roscellinus, whose name has descended to us as the first advocate and martyr of Nominalism, but of whose opinions we have only the reports of adversaries, *may* have held the extreme opinion, which is attributed to him, namely, that Universals were only names; he certainly denied their objective existence, denied that there existed a thing 'colour,' apart from coloured things, a thing, 'animal,' apart from animals, and denied that there was any real existence which was not an individual. When I say that Roscellinus may have held the opinion attributed to him, I wish to be understood as speaking doubtfully, because although it seems almost inconceivable that an acute mind could believe in so crude an opinion, which implies that names are mere breath, *flatus vocis*, and not also signs of ideas; and this difficulty is heightened by the fact that we have not his words whereby to judge him, but only the language adversaries put into his mouth; nevertheless, the history of Philosophy abounds in instances of even acute minds being thoroughly subjugated by verbal distinctions, and it is quite possible that Roscellinus, in seeing the error of Realism, saw nothing more than names in general terms, and overlooked the fact that these names stood for general ideas. Unless he did overlook this, the modification of Nominalism which Abelard introduced, and which has since been known as the third opinion on the question, and named Conceptualism (a purely verbal modification), is a mere subterfuge.

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* Cousin: *Œuvres Inédites d'Abélard: Introd.*

Those who believed with Plato, that general terms had correspondent objective existence, might have more readily listened to the Aristotelian refutation, and the more willingly acquiesced in the logic of Roscellinus, which reduced general terms to mere names, had there not been a vista of heresy in this argument. Roscellinus, with unhesitating logic, showed that the three persons of the Trinity were incompatible with the unity of real existences: either the three persons existed separately and individually, and were one only in name, having a common resemblance of nature; or else the three persons form but one God; in which case God exists alone, without distinction of persons.

That such a conclusion should startle the world, and call forth the thunders of the Church, will surprise no one. Roscellinus was summoned to appear before the council, and publicly abjure his errors (1093). He did so; not convinced that they were errors, but convinced that the people of Reims thought so, and thinking so were ready to massacre him. 'Telle était alors l'énergie de la foi chez les simples,' says M. Hauréau, 'tel était le discrédit populaire de la raison!' But surely a logical process, which carried men to such unpleasant conclusions, would always have been in discredit? Men were not willing to give up their dogma of the Trinity; and any logic which called upon them to do so would be answered with brick-bats. If Roscellinus persuaded a few hardy thinkers to adopt his opinion, they prudently kept silent; and that pleasant writer, John of Salisbury, alluding to it some years afterwards adds, 'sed eorum jam explosa sententia est, et facilè cum auctore suo evanuit.'* Realism was again ascendant. It had an imperfect foundation in logic, but it was, or seemed to be, favorable to the Trinity, and that consecrated it.

The first great adversary of Roscellinus was Anselm of Canterbury, whose works have already been mentioned. His treatise *de Fide Trinitatis* is directed against Nominalism, and his arguments have satisfied many moderns; they have moreover given M. Cousin an opportunity of displaying that rhetorical clap-trap which so often makes his writings odious.†

The next great Realist was William of Champeaux, and against him, as we have seen, arose Abelard; not indeed to defend Roscellinus and his heretical Nominalism; on the contrary, to disavow and refute him, but to replace the two opinions by a third. He adopted so much of Nominalism, that until recently he was always held (and I think justly held) to be a Nominalist. Buhle points out that Abelard is a Nominalist when combating William, and a Realist when attacking Roscellinus.* M. Rousselot argues at great length that Abelard was in truth a Realist; † that as a logician he agreed with Roscellinus, reducing universals to general terms, but as a metaphysician he agreed with the Realists. A closer examination of the arguments, however, shows that Abelard was a Nominalist under a new name.

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* JOANNES SARISBERIENSIS: *Polycraticus*, vii. 12. Comp. his *Metalogicus*, ii. 17. *Opera Omnia*, ed. GILES, Oxon. 1848.

† 'Ainsi le genre humain n'est pas un mot, ou bien il faut prétendre qu'il n'y a réellement rien de commun et d'identique dans tous les hommes, que la fraternité et l'égalité de la famille humaine sont de pures abstractions, et que, la seule réalité étant l'individualité, la seule réalité est par conséquent la différence, c'est-à-dire, (what logic!) l'inimitié et la guerre, sans autre droit que la force, sans autre devoir que l'intérêt, sans autre remède que la tyrannie; tristes mais nécessaires conséquences que la logique et l'histoire imposent au nominalisme et à l'empirisme, et qui soulèvent contre eux, avec le christianisme, le sens commun et la conscience du genre humain.' COUSIN: *Fragments de Philos. du Moyen Age*, 1856, p. 117. The imbecility of this passage is artfully concealed in its rhetorical assumptions; but it is so characteristic of the writer (who has nevertheless done much for the history of philosophy) that I could not forbear citing it, for the sake of marking my disgust.

The peculiarity of his doctrine consists in the distinction of Matter and Form applied to genus and species. 'Every individual,' he says, in a very explicit passage of the treatise *De Generibus et Speciebus*, printed by M. Cousin, 'is composed of matter and form, i.e. Socrates from the matter of Man, and the form of Socratity; so Plato is of the same matter, namely, that of man, but of different form, namely, that of Platonity; and so of all other individual men. And just as the Socratity which formally constitutes Socrates is nowhere but in Socrates, so the essence of man which sustains Socratity in Socrates, is nowhere but in Socrates. The same of all other individuals. By species, therefore, I mean, not that essence of man which alone is in Socrates, or in any other individual, but the whole collection which is formed of all the individuals of the same nature. This whole collection, although essentially multiple, by the Authorities is named one Species, one Universal, one Nature; just as a nation, although composed of many persons, is called one. Thus each particular essence of the collection called Humanity is composed of matter and form, namely, the animal is matter, the form is, however, not one, but many, i.e. rationality, morality, bipedality, and all the other substantial attributes. And that which is said of man, namely, that the part of man which sustains Socratity is not essentially the part which sustains Platonity, is true also of the Animal.‡ For the Animal which in me is the form of Humanity, cannot essentially be elsewhere; but there is in it something not different from the separate elements of individual animals. Hence, I call Genus the multitude of animal essences which sustain the individual species of Animal: the multitude diversified by that which forms Species. For this latter is only composed by a collection of essences which sustain individual forms; Genus, on the contrary, is composed by a collection of the substantial differences of different Species. . . . . The particular essence which forms the Genus Animal, results from a certain matter, essence of body, and substantial forms, animation and sensibility, which can only exist essentially there, although they take indifferently the forms of all species of body. This union of essences produces the Universal named Animal Nature.' *

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* BUHLE, *Gesch. der neuern Phil.* I. 840.

† ROUSSELOT, *Études sur la Philosophie dans le Moyen Age*, 1840, II. 33, *sq.*

‡ We must subjoin the original: 'Et sicut de homine dictum est, scilicet quod illud hominis quod sustinet Socratitatem, illud essentialiter non sustinet Platoni-

From this passage, and many others to the same effect might be cited, it is clear that if Nominalism be understood as proclaiming Universals to be only general names, *flatus vocis*, and not also general conceptions based on something real, expressing the resemblances and relations of things—an interpretation it is difficult to accept—Abelard separated himself from the Nominalists, and maintained the existence of universals *post rem*, though not *ante rem* and not *in se*—as when a multitude is conceived under the form of unity linking together the resemblances existing between the individuals composing it. But this reality of conceptions, which is the point advanced in Conceptualism, though it sometimes looks like the doctrine of Realism, and enabled Abelard to use equivocal language which has misled even M. Rousselot, is such as every Nominalist may accept. Abelard maintains that Genus and Species are not general existences, objectively real, existing integrally in various individuals whose identity admitted of no other diversity than that of modes or accidents; otherwise the subject of

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tatem, ita de animali. Nam illud animal quod formam humanitatis quæ in me est, sustinet, illud essentialiter alibi non est, sed illi non differens est et singulis materiis singulorum individuorum animalis.'

* *De Generibus et Speciebus*, p. 524.

these accidents, the substance of these modes being identical, every individual would possess the same substance. Humanity would thus only be one man; Socrates being at Athens, Humanity would be at Athens; and Plato being at Thebes, Humanity would then either not be at Athens with Socrates, or Plato would not be a man.

M. Hauréau * seems to me correct in saying that when Abelard appears to be defending Realism against Roscellinus, it is merely on the surface; he does not think what he seems to say; nothing is more repugnant to him than that doctrine: but Nominalism having an ill name, he has to advance cautiously. All that he really advances against Roscellinus is that Genus and Species are more than words, words being signs of conceptions. How these conceptions are formed by abstraction is very explicitly stated in his treatise *De Intellectibus*.† It is true that to give an air of independence to his position, and protect himself against the accusation of Nominalism, he stoutly affirms that words are nothing, whereas Genus and Species are things, substances. But what things?—what substances? 'Il est trop ami de l'équivoque,' says M. Hauréau, 'pour s'expliquer davantage à ce sujet quand rien ne l'exige.'

In spite of the equivoque, or rather in consequence of it, Conceptualism, which was Nominalism under a new name, found great favour: the more so when men discovered that if Nominalism led to heretical views of the Trinity, Realism necessarily led to Pantheism, or the identification of all substances in one substance. But the battle continued to rage with varying fortunes throughout the Middle Ages, and the Church in turn condemned both. Nominalism was repeatedly dragged before the councils and condemned. Realism also was found to shelter monstrous heresies. In endeavouring to prove the existence of God, the school of Anselm was found almost to have denied that existence, to have merged it in Pantheism. 'Et si l'on ne se hâte de fermer

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* Hauréau: *De la Philos. Scholastique*, I. 281.

† Printed by M. Cousin in his *Fragments Philos.* Comp. Rémusat: *Abélard*, I. 495, and Hauréau, I. 283.

les chaires où sont développées de telles conclusions, c'en est fait de tout dogme, la morale chrétienne n'a plus elle-même de fondement, et la plus abhorrée de toutes les hérésies, celle qui eut pour auteurs les plus mal famés des gnostiques, triomphe au douzième siècle de l'église et de la foi ! Les buchers s'allument pour recevoir ces audacieux interprètes de la formule réaliste.[*] '

At the close of the XIIth century liberty of thought seemed vanquished. All the philosophical schools had in turn been condemned as heretical; and each was eager to secure the condemnation of the other. Disgusted with their quarrels, with the futility of their principles, a party arose which turned the sharp edge of logic against them all and proclaimed the vanity of rational research. Of these an excellent representative may be seen in John of Salisbury, who lashes the logical follies of the age with a vigour which makes him interesting to our own age.[†] He refused to admit that idle disputes about words, and debates about generals and particulars, were philosophy at all. In his treatise, *Polycraticus*, he appeals to the nobler philosophy of Christian moralists against this vain array of logical formulas; he objects to the deductive method so strikingly exhibited by Anselm, and so destructively employed by Anselm's followers. And the Church applauded him. In fact, the struggles of the schools seemed about to end, as many other anarchical efforts have ended, in universal despotism. That which prevented so fatal a consummation, that which once more introduced the ferment of philosophic speculation into Europe, was the agitating influence of the Arabian commentators on Greek philosophy and science.

[*] HAURÉAU, I. 215.

[†] JOANNES SARISBERIENSIS: *Metalogicus*, pp. 69, 73, 75, 77, ed. GILES. I have only room for one sentence: 'Fiunt itaque in puerilibus Academici senes; omnem dictorum aut scriptorum excutiunt syllabam, imo et literam; dubitantes ad omnia, quærentes semper, sed nunquam ad scientiam pervenientes; et tandem convertuntur ad vaniloquium, ac nescientes quid loquantur, aut de quibus asserant, errores condunt novos, et antiquorum aut nesciunt aut dedignantur sententias imitari. Compilant omnium opiniones, et ea quæ etiam a vilissimis dicta vel scripta sunt, ab inopia judicii scribunt et referunt: proponunt enim omnia quia nesciunt præferre meliora.'

# CHAPTER II.

## *ARABIAN PHILOSOPHY.*

THE part due to Arabian influence in determining the evolution of European thought, giving a peculiar direction to culture which was in danger of languishing under the repressive despotism of Theology, is important, and not generally recognised; we are interested, therefore, in what savants tell us about these Arabian writers, especially of their leading tendencies. I will here rapidly set down the results of my own inquiries in this direction, giving references to sources where the curious reader will find ampler detail.

It is a common error to confound Mahommedan with Arabian, and then to feel surprise at the rapid transformation of an ignorant nomadic people, such as the Arabs were, into the splendid nation whose culture gave a mighty impulse to European progress. Even the learned Dozy seems to countenance this error when he says of the Arabs 'arrachés par un prophète à leur déserts et lancés par lui à la conquête du monde, ils l'ont rempli du bruit de leurs exploits; enrichis par les dépouilles de vingt provinces ils ont appris à connaître les jouissances du luxe; par suite du contact avec les peuples qu'ils ont vaincus ils ont cultivé les sciences, et ils se sont civilisés autant que cela leur était possible. Cependant même après Mahomet une période assez longue s'est écoulée avant qu'ils perdissent leur caractère national.'* Barbarians they were, and barbarians they long remained, in spite of their conquests.

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* Dozy: *Histoire des Musulmans d'Espagne.* Leyden, 1861, i. 15.

There never was any Arabian Science, strictly speaking. In the first place, all the Philosophy and Science of the Mohammedans was Greek, Jewish, and Persian. In the next place, it was never, or very rarely, the Arabs who devoted themselves to such studies. One authority * has told us that what it is customary to call Arabian Philosophy forms but a small section of the Mohammedan movement, and was almost unknown even to the Mohammedans themselves. It really designates a reaction against Islamism, which arose in the distant parts of the empire, in Samarcand, Bokhara, Morocco, and Cordova. The Arabian language having become the language of the empire, this Philosophy is written in that language; but the ideas are not Arabian; the spirit is not Arabian. The real genius of that people is to be found in the Moallakat and the Koran; and is absolutely antagonistic to Grecian Philosophy. It is the genius of a Semitic race. That race has been moved to lyrical and prophetical expression, rarely to the severe abstractions of Science, or the delicate subtleties of Philosophy. None of the great names, except Al-Kendi, belong to Arabs, strictly so called. They are the names of Persians, Spaniards, and Jews. It was through the Persians, under the Abbassides, that Grecian thought was introduced into Islam. It was at Bagdad that Philosophy formed a home. The caliph, Al Mamoun, a representative of the Persian reaction, was its first great patron; Syrian Christians and the Magi were its promoters.

When the edict of Justinian drove the last of the Greek philosophers to seek a refuge in Asia, they found welcome in Persia. The Nestorians flying from Heraclius found hospitable protection under Kosroes. And thus it was, that when the Abbassides wished to illustrate their dynasty with the splendour of Letters, they found numerous Greeks, Christians, and Jews ready to aid them with Syriac and Arabian versions of the great Athenian and Alexandrian writers. †

No one doubts that the origin of Arabian Philosophy and

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* Ernest Renan: *Averroës et l'Averroisme.* Paris, 1852, p. 67.

† Compare Munk: *Mélanges de Philosophie Juive et Arabe.* Paris, 1859, p. 313.

of European Scholasticism must be sought in the Alexandrian School, more particularly in the peripatetic modification impressed on that School by its later thinkers. Porphyry is more Aristotelian than Platonic; and Porphyry was regarded, both by East and West, as the representative of philosophic thought. The absolute dominion which for ten centuries was exercised by Aristotelianism was greatly indebted to the labours of the Alexandrian interpreters, Ammonius, Themistius, Syrianus, Simplicius, and Philoponous; and it was to them that Arabian Philosophy owed its material. The little that the Arabs knew of Plato—and it was very little—they gained through these peripatetic commentators. Few of Plato's works, according to Munk, were translated into Arabic, and the few versions that existed were not widely known. I find that Djemàl Eddin al Kifti, who in the thirteenth century wrote a 'Dictionary of Philosophers,' mentions, under the head of Plato, only the translations of the *Republic*, the *Laws*, and the *Timæus*; but he also, under the head of Socrates, cites passages from the *Crito* and *Phædo*.

That the Arabs attached themselves servilely to Aristotle, and paid little attention to Plato, is well known. The reasons usually deduced for this preference are, as Renan justly remarks, more plausible than solid. It was not owing to their more practical turn of mind; it was not owing to their more scientific disposition. It was not even *preference* at all: there could be no preference where there was no alternative for choice. The Arabs accepted the culture which was offered them; and Plato was *not* offered. Even Plotinus, whose views they liberally incorporated with their philosophy, is never mentioned by them. *

The Syriac versions of Aristotle, commenced in the days of Justinian, were rapidly multiplied by translations into Arabic. In the ninth century the Nestorian physicians, Isaak and his son, gave translations which were much renowned. In the tenth century, Ya'hya ben 'Adi and 'Isa ben Zara made new translations, and corrected those already extant. Some of these, according to Munk, are executed with remarkable care and accuracy. The debt which Europe owes to the Arabs for their preservation of Greek writings, and the stimulus impressed upon European curiosity by the ardour of their veneration, without which stimulus the Renaissance might never have come to pass, has long been recognised, and perhaps exaggerated. Another and less questionable debt is due to them for the ardour with which they prosecuted mathematical, astronomical, medical, and chemical studies. Alexandria produced not simply philosophers, but also men of science; and the Arabs were brought into contact with both, learning to venerate Ptolemy and Galen as well as Aristotle. Thus, if the Arabs helped to raise Aristotle on the despot's throne, they also furnished the irresistible weapons with which that throne was one day to be destroyed.

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* See MUNK, p. 240. RENAN, p. 71.

The aspect of learning in Christian Europe during the tenth century was piteous. Yet at that very period of darkness, Andalusia, under the Mohammedans, was the centre of light. It was the market where all the treasures of the East found ready sale; works composed in Persia and Syria were often known in Spain before they had been heard of in the East. The caliph had his agents at Cairo, Bagdad, Damascus, and Alexandria, all seeking for manuscripts.

It is to be borne in mind that the Arabs, although they conquered Spain, were too weak in numbers to hold that country in subjection otherwise than by politic concessions to the opinions and customs of the people. They were in a position not unlike that of the Normans in England: superior in military organization, but inferior in actual strength, and forced to respect their subjects. Hence they permitted Jews and Christians to retain their religious rites and daily customs. So successful was this policy of conciliation, that Christians and Mohammedans not only lived together amicably, but often intermarried. And it is worthy of note, that from Spain Arabian culture slowly penetrated Europe, through France, by means of the wandering and adventurous Jews.

Andalusia in the tenth century is thus a star shining solitary amid the darkness. The passion for Science and Art had established there a toleration which seems surprising to moderns. Christians, Jews, and Mussulmans spoke the same language, sang the same songs, delighted in the same oems, thought the same thoughts. It is obvious that this oleration, and this passion for knowledge which could only e general where such toleration existed, are quite irreconilable with the commonly received opinion of Mohammedan igotry. The truth must be avowed; there is almost always omething of indifference in toleration. Without moral ndifference, or intellectual scepticism, impartiality is difficult. Very earnest belief is confident, and the confidence in truth brings intolerance of error. Culture must weaken the intensity of religious conviction, before it widens the capacity of religious emotion so far as to admit the possibility of another opinion being true, or of an erroneous opinion being without offence in the eye of Heaven. A sweetly serious and hopeful nature may believe that error is not sin; but it is only exceptional minds that can be at once fervent and tolerant. If therefore we find any section of the world of Islam tolerant, we may safely conclude that it was sceptical or indifferent. Now M. Renan has shown* that even in Mahomet's time there was little belief in the prophet except among a small circle of devoted followers; and that it was not until the twelfth century that Islamism finally triumphed over the undisciplined elements which had split it into sects, some of them almost openly avowing their infidelity; 'sectes secrètes à double attente, alliant le fanatisme à l'incrédulité, la licence à l'enthousiasme religieux.' Indeed, the Arab is said by those who have studied his character not to be of a religious disposition, and in this he differed greatly from the other races that have adopted Islamism. 'Voyez les Bédouins d'aujourd'hui,' says Dozy. 'Quoique musulmans de nom ils se soucient médiocrement des préceptes de l'Islamisme. Le voyageur européen qui les a connus le mieux atteste que c'est le peuple le plus tolérant de l'Asie.'* More than a century after Mahomet the Arabs in Egypt were ignorant of what the prophet had forbidden.† The religious fanaticism of Mohammedanism, which has aspects resembling our Puritanism, is traced by Dozy to the Berbers.

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* Renan: *Études d'histoire religieuse*, 3rd ed. Paris, 1858, pp. 257-266.

As Arabian Philosophy is nothing more than the Alexandrian interpretation of Aristotle, with occasional Oriental coloring, I shall not pause to expound the doctrines at any length; I am more desirous of indicating the kind and degree of scientific culture which was at one period so powerful in its influence on European thought. The readiest way of indicating this will be to bring forward the most eminent of the Arabian teachers.

## § I. AL-KENDI.

Our list opens with Al-Kendi, who flourished in the ninth century. He was the son of the governor of Coufa, under Haroun Al-Raschid. He studied at Bagdad and Bassora; and became famous, under the caliphs Al-Mamoun and Al-Mo'tacem, for works on philosophy, astronomy, mathematics, medicine, politics, and music. Learned in the learning of Persians, Indians, and Greeks, he was selected by the caliph as the man to translate Aristotle. Al-Kendi's commentaries on the Stagirite are rarely cited by Arab writers; and hence we may conclude they had been greatly surpassed by succeeding commentators.

In the detached notices which reach us of these Arabian thinkers, we often seem to meet with opinions greatly in advance of the culture of the time. But it would be necessary to have much more circumstantial statements before we could rely on such inferences, a verbal agreement often masking profound divergences of thought. When, for example, we hear of Al-Kendi having composed a treatise to show that Philosophy was based on Mathematics, and could not be understood without Mathematics, we seem to read an agreement with the most advanced school of modern thinkers; yet, if we had Al-Kendi's work before us, we should probably find that his view of the relation of Mathematics to Philosophy was altogether unlike the modern. Roger Bacon, a disciple of the Arabs, also insisted on the primary necessity of Mathematics,* without which no other science can be known; yet by Mathematics it is clear that he meant something very different from what we mean, including under that head even dancing, singing, gesticulation, and performance on musical instruments.

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* Dozy: *Op. cit.* I. 20.

† *Ibid.* p. 37.

## § II. AL-FARABI.

It was probably with no clearer insight that Al-Farabi treated Mathematics, gaining great celebrity. He was also famous as a physician (all the Arabs seem to have made Medicine a favourite study) and as a commentator on Aristotle. The date of his death—December, 950—seems all that can positively be fixed. Of his life, all that is authentically known is that he studied at Bagdad, and lived at Aleppo and Damascus. The details to be found in Leo Africanus and Brucker are rejected by Munk as untrustworthy. The chief of his writings were commentaries on Aristotle, especially on the *Organon*. And these we often meet with in citation. Roger Bacon and Albertus Magnus repeatedly quote them. Avicenna also avows himself greatly indebted to them; and so great were his obligations, that readers gradually ceased to seek in Al-Farabi what they could find in Avicenna.

Among the works of Al-Farabi there was one on the Philosophy of Plato and Aristotle, of which some descriptions by Arabian writers still remain. It implied a knowledge of Plato greater than is found in other writers of that period. It contained an exposition of the various branches of philosophy and their mutual relations, an analysis of Plato's doctrine, with an indication of his works. This was followed by a more detailed account of Aristotle, with brief summaries of each of his treatises.

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* Roger Bacon: *Opus Majus*, Venet. 1750, p. 43, and *Opera Inedita*, ed. Brewer, 1859, I. 105.

Al-Farabi's works on Music are said to have been greatly in advance of what had appeared before his time. One of them contained a complete theory of the art, treating of sounds, concords, intervals, rhythms, and cadence. In another he expounded the writings of the ancients, showing what progress had been made, correcting the errors of each writer, and supplying his omissions. Al-Farabi refuted the Pythagorean notion of music of the spheres. He also explained the influence of vibrations of the air upon instruments, and how the instruments ought to be constructed.*

## § III. AVICENNA.

Far more illustrious than any who had preceded him, Avicenna, or to give him his real title (Abou-'Ali al'Hosein ben-'Abd-Allah Ibn Sina), was born in one of the cities of Bokhara in August, 980. His family was Persian. At an early age he knew the Koran by heart, and was not a little admired for his precocity, especially in the studies of grammar and jurisprudence. To these he soon added mathematics, physics, logic, and metaphysics. Medicine followed, of course; and so marvellous was his precocity, that at the age of 17 he was appointed medical adviser to the Emir Nou'h-ben Mansour, whom he cured of a serious malady.

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* None of the important works of Al-Farabi have been translated. The little volume published at Paris in 1638—*Alpharabii, vetustissimi Aristotelis interpretis, opera omnia quæ latina lingua conscripta reperiri potuerunt*—contains only two essays, I. *De Scientiis* (a sort of programme of the sciences), II. *De intellectu et intellecto.* Two other essays in the original, with Latin versions, were published by SCHMÖLDERS: *Documenta Philosophiæ Arabum.* Bonn, 1836.

The immense library of the emir was thus opened to his research. So eager and so ardent was his devotion to study, that he was accused of having set fire to the library, jealous lest another should share with him the knowledge he had gained there. An idle story.

After the death of his protector the emir, Avicenna quitted Bokhara, and extended his knowledge and his fame by visiting several great cities. He then composed his *Medical Canon*, which for centuries was the text-book of European schools, and is the one work by which he is known beyond his own country. He was soon again a wanderer. At Hamadan the emir raised him to the post of vizir. But the priests were offended, and instigated the soldiery to revolt. Avicenna was made prisoner, and his life was in danger. After some time spent in concealment, he was again able to reappear at court, and attend on the sick prince. It was at this period he composed his chief philosophical work, *Al-schefa* (which means *The Cure;* the Latin title is misleading).* And every evening he lectured on philosophy and medicine to a large and attentive audience. The lecture over, he ordered musicians to appear; and being of a festive disposition, fonder of the pleasures of the table than became a philosopher and physician, he rapidly undermined a constitution already enfeebled by over study. Avicenna was fond of wine, and on being reproached for his defiance of the Koran, replied, 'Wine is forbidden because it excites quarrels and bad passions; but I, being preserved from such excesses by my philosophy, drink wine to sharpen my intellect.'

It was a troubled life our philosopher led, crowded with excitement of various kinds. He was not content with lecturing and wine-bibbing, but must also take to conspiring. Thrown into prison, he escaped to Ispahan, where he found a new patron, with whom he passed a few years of toil and excitement, which terminated in 1037, in the fifty-seventh year of his age.

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* 'De his voluminibus,' says ROGER BACON, 'duo non sunt translata; primum autem et secundum aliquas partes habent Latini quod vocatur *Assephæ*, i.e. Liber Sufficientiæ.'—*Opus Tertium.*

The immense productivity of the ancient philosophers is one of their most striking characteristics. Avicenna, whose brief career was also a troubled one, found time to be as voluminous as a Benedictine. Learned in all the learning of his time (which however was easily compassed), he composed more than a hundred works, some of which still survive.*

In the eleventh century he was to the Mohammedans of the East what, in the twelfth century, Averroes was to the Mohammedans of the West, and what Albertus Magnus was to Europe in the thirteenth century. Indeed, it is very probable, as M. Jourdain suggests,† that Albertus borrowed the plan of his own vast labours from Avicenna, who was not so much a translator or commentator of Aristotle, as the popularizer and propagator of his ideas. Like Albertus, he composed treatises on all the subjects treated by the Stagirite, often reproducing the expressions as well as the ideas of his model, but not unfrequently deviating into new tracks, either because he had misinterpreted the original, or because his own wider knowledge and clearer thought enabled him to improve it.‡ His least questionable improvements were in psychology. It is to Avicenna that the Arabs, and after them the Schoolmen, owe the classification of the faculties into exterior (the five senses), interior, motor, and rational.

The immense and enduring success of Avicenna's *Medical Canon* is a significant fact, when we reflect that he had not advanced the science in any one direction beyond the point it had reached among the Greeks. Nay, in some respects it was even less advanced, for it servilely followed Aristotle in preference to Galen, and this, too, in simple matters of fact within easy verification; such, for example, as in assigning only three chambers to the heart. The Arabs could have no scientific pre-eminence over the Greek physicians, for they were by Mohammedan prejudices forbidden to practise human anatomy; and consequently physiology inevitably became a mere display of teleological ingenuity.

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* A Latin version, published at Venice in 1495, under this title—*Avicennæ, peripatetici philosophi ac medicorum facile primi, opera in lucem redacta ac nuper quantum ars niti potuit, per canonicos emendata*—contains *Logica*, *Sufficientia* (or, as we should style it, *Physica*), *De Cœlo et Mundo*, *De Animâ*, *De Animalibus*, *De Intelligentis*, *Alpharabius de Intelligentis*, and *Philosophia Prima*.

† JOURDAIN: *Recherches sur les anciennes traductions latines d'Aristote.* Paris, 1843, p. 209.

‡ 'Princeps magnus, qui semper in libris sapientiæ vocatur princeps Abbolati, ipse iterum revocavit philosophiam in Arabico, et exposuit opera antiquorum.' ROGER BACON: *Opus Tertium*, cviii. p. 24.

Sprengel asks how it is that the *Canon* came to secure and preserve its unquestioned supremacy in European schools, not being really superior to other Arabian works on the same subject. He finds an explanation in the systematic completeness of the work, and the indolent servility of the public, which was flattered by that cut-and-dried wisdom. 'These men,' he says, 'disliked novelties; accustomed in religious matters to obey without scruple the infallible dicta of the Church, it was agreeable to them to have an infallible authority in matters of science.'* Authority has always had great weight in Medicine; and the reason is because positive science plays so small a part in it. Where men cannot appeal to proofs, they must fall back on precedents; where they lack reasons there they quote authorities. Avicenna gratified the disposition to accept authority, and gratified the indolence which shrinks from laborious research. His dicta rendered research superfluous. Men were little given to independent thought in those days, when Science meant the knowledge of what other men had thought. The *Canon* contained the chief thoughts of Greek and Arabic sages; and men were thus saved even from the labours of erudition; for why should they have sought in the originals what this compendium so conveniently placed within easy reach? It was not until they began to think of interrogating Nature, instead of echoing the sages, that Avicenna's supremacy was disputed. And so naturally servile is the human intellect, so reluctantly does it withhold allegiance from a name which has once held authority, that even late in the sixteenth century we find Scaliger asserting that no man could be an accomplished physician who had not mastered Avicenna.

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* SPRENGEL: *Gesch. der Arzneikunde.* Halle, 1823, II. 424.

Following a chronological order, two names ought to be interposed here, Avicebron and Algazzali; but for purposes of exposition, I withhold these till a subsequent page, Algazzali being better understood in connection with Averroes, and Avicebron conducting us back to the scholastics.

## § IV. AL-HAZEN.

Al-Hazen (’Abou ’Ali al’Hasan ben al-’Hazen) was really a distinguished mathematician, who flourished during the early part of the eleventh century. He is best known in Europe by his treatise on *Optics*, translated by Risner, and published at Bâle in 1572. He therein corrected the Greeks, who supposed that rays of light issue from the eye and impinge on the objects; by anatomical and geometrical arguments, he shows that the rays come from the objects and impinge on the retina. He further explained the fact, that we see objects singly, though with two eyes, because the visual images are formed on symmetrical portions of the two retinas. He explains reflection and refraction; and astonishes us with his knowledge that the atmosphere increases in density as it decreases in height, and that the path of a ray of light through it, on entering obliquely, must be curvilinear and concave to the earth. Hence, as the mind refers the position of an object to the direction in which the ray of light enters the eye, the stars must appear to us nearer the zenith than they really are. Hence we see the stars before they have arisen and after they have set.*

## § V. AVEMPACE.

Avempace, as the West called Abou Beer Mohammed ben Ya’hya Ibn Badja, is one of the most celebrated of the Spanish Mohammedans. He flourished early in the twelfth century.

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* It is eminently probable that KEPLER borrowed his optical views from AL-HAZEN. It is certain that he has no just title to originality as the discoverer, which is sometimes claimed for him.

He is the first of his compatriots in Spain who attained celebrity as a philosopher; and according to Ibn Tofail, his illustrious successor, he surpassed all contemporaries in depth of wisdom, although worldly affairs and a premature death prevented the completion of those important works which he had designed. He only published hastily written essays on Mathematics, Medicine, and Philosophy, and commentaries on Aristotle. One of his antagonists thought it a severe sarcasm to say, that he only studied mathematical science, only meditated on the heavenly bodies and on the nature of climate, 'despising the Koran, which in his arrogance he sets aside.' The same critic, with the common candour of critics, says, 'according to him it is better to do evil than good, and that beasts are better guided than men.' Munk, who gives an analysis of one of Avempace's works,* says that he impressed on Arabian Philosophy a movement directly opposed to the mystical tendencies of Algazzali, and 'qu'il proclama la science spéculative seule capable d'amener l'homme à concevoir son propre être ainsi que l'intellect actif.'

## § VI. ABUBACER.

Early in the twelfth century appeared Abou Becr Mohammed ben-'Abd-al-Malic Ibn Tofail, known in Europe as Abubacer. He was born in Andalusia; and was renowned at the court of the Almohades for his skill as a physician and poet, and for his mathematical and philosophical learning. After having filled the office of secretary to the governor of Granada, he was appointed vizir and physician to Yousouf, the second king of the Almohade dynasty, who admitted him to great intimacy. His favour at court was honourably employed in protecting other *savants*, and it was he who presented Averroes to the king; showing a sublime superiority to any of those movements of jealousy which disturb inferior minds. One day, Yousouf expressed a desire to have a clear analysis of Aristotle's doctrine. Abubacer urged the task upon Averroes, instead of undertaking it himself. One likes to hear of the success of such men, and to know that his funeral was attended in person by the King Yacoub, surnamed Al-Mansour.

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* MUNK: *Op. cit.* pp. 389 409.

Abubacer was not only grateful to his predecessor, Avempace, but generous to his successor and rival, Averroes. I should be glad to believe that he was as profound as he was liberal. The evidence, however, will not warrant the conclusions of some modern admirers. I allude particularly to the claim which has been set up for him on the ground of his having, before Copernicus, rejected the Ptolemaic hypothesis. The rejection of an established error does not always imply uncommon insight. It is often due to impatient ignorance. Every year we see men ready to prove Newton's hypothesis a mistake; and if (the supposition is not very plausible) a truer hypothesis should some day replace that of Newton, these 'undevout astronomers' will clamorously assert their claims to priority. When, therefore, we are told that Abubacer rejected the Ptolemaic hypothesis, we must ask upon what grounds he rejected it, before we credit him with a deeper insight. Averroes, in his Lesser Commentary on Aristotle's Metaphysics, speaks of Abubacer's excellent views on the subject of epicycles; and Alpetragius, in his Introduction to Astronomy, says, 'You know that the illustrious Abubacer told us that he had found out an astronomical system and the principles of celestial motions different from those put forth by Ptolemy, and which need neither eccentrics nor epicycles; and on his system he said all movements are verified and no error results. He also promised to write on this subject.' But he did not write on it; and we are left to guess at his system, through the partial glimpses given in Averroes and Alpetragius. The basis of his objection to Ptolemy's hypothesis is that it is not in harmony with the theories of motion given by Aristotle! No man of scientific culture will be curious to hear more of a system which rests on that basis, except as a matter of historical interest; and in this direction we may notice the hypothesis proposed by Alpetragius:—'All the spheres follow the movement and the impulsion of the superior sphere which is above that of the fixed stars and is void. They have but one movement from east to west; but according as they are distant from the superior sphere, their motion is less rapid, because they receive less of its impulse. Their apparent irregularity is thus explained, without the necessity of a retrograde motion from west to east. The different spheres have their particular poles, which incline from the poles of the superior sphere. Each in following the diurnal movement of the superior moves about its own poles. These two movements result in a sort of spiral, which makes the stars incline towards the north or south. There is thus no need of eccentrics nor epicycles.'

Alpetragius avows—and the avowal is very significant—that he was not led to this hypothesis by Observation, but by a kind of divine inspiration,* which is a process of discovery much in vogue among certain classes of speculators. Nor did he ever attempt to verify his hypothesis by calculation. Calculators are seldom inspired; indeed, one may observe that the minds most given to the rejection of conclusions, which, whether true or false, have been established on laborious induction and calculation, are the minds least impressed with the necessity of any higher verification than that of their 'intuitions.' They have the most serene reliance on their own sagacity; and Alpetragius had therefore no hesitation in avowing, at the close of his treatise, that it would be impossible for him to imitate Ptolemy and enter upon all the details respecting celestial motions, for this would—occupy all his time!

Whatever may be thought of Alpetragius in our day, his hypothesis was long regarded as an immense contribution.

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* 'Itaque excitavit me Deus omnipotens suo divino influxu ab alio quidem non tributo, et experrectus sum à somno stupefactionis, et illuminavit oculos cordis mei ex perturbationis suis in eo quod nunquam ab aliquo cogitatum fuit, et ad id non perveni ex speculatione et discursu ingenii humani, sed ex eo quod placuit Deo ostendere sua miracula, et patefacere secretum occultum in theorica suorum orbium et notificare veritatem essentiæ eorum et rectitudinem qualitatis motus.' Quoted by DELAMBRE: *Hist. Astron. au Moyen Age.*

The book was translated by Michael Scott. It was largely used by Albertus Magnus, Roger Bacon, and Vincent of Beauvais.[1] In a treatise, written at the beginning of the fourteenth century, Isaac Israeli, a Jew of Toledo, speaks of it as the theory which agitated the whole world; although, he wisely adds, it was not worked out sufficiently to render it worthy of discussion: the system of Ptolemy could not be abandoned for an hypothesis, which was not based on exact calculations. Another Jew, Levi ben Gerson, thought it worth while to refute Alpetragius, and to prove in detail how preposterous were his notions. How far the wide dissemination of the hypothesis, and the controversy it provoked, may have prepared the way for Copernicus, is an interesting question.

To return to Abubacer. He is widely known in Europe through his philosophical romance, *Philosophus Autodidactus*, in which he endeavours to trace the development of an intelligence unbiassed by society and its traditions and prejudices. His hero, Haï, is born on a desert island situated beneath the equator. In lieu of human parents, his generation takes place through certain physical conditions; which did not appear so preposterous in the eyes of Abubacer's contemporaries and successors as in the eyes of moderns; spontaneous generation being an universally accepted hypothesis in those days. Haï had a gazelle for his wet-nurse. The different periods of his development are marked by the successive advances which he makes in the comprehension of things. From the simple knowledge of sensible things, he gradually arrives at a conception of the world and its physical laws. Later on he recognises the unity which underlies variety. Things, though multiple in their accidents, are one in essence. He thus arrives at the knowledge of Matter and Forms. The first Form is Species. All bodies are united by corporeity, i.e. the corporeal Form.

Contemplating Matter and Forms, he enters the spiritual world. It is obvious that inferior objects are produced by something. There must, therefore, be a Producer of Forms, since whatever is produced must have a producer. Directing his attention to the heavens, Haï sees a variety of celestial bodies, which cannot be infinite. The celestial spheres are as one individual, and thus the whole universe is an entirety. Is this entirety eternal? Haï is unable to decide; but inclines to the belief that it is eternal. Be that as it may, he recognises an *agent* which perpetuates the existence of the world, and sets it in motion. This agent is neither a body nor a faculty of a body; it is the Form of the universe. All beings are the work of this Supreme Being; and our minds contemplating the beauty of the work necessarily ascend to its Creator, his goodness and perfection. All Forms are in him and issue from him: so that there is in truth no other Existence.

Haï now looks inwards. He finds that his intellect is absolutely incorporeal, since it perceives things divested of all quality—and this neither the senses nor the imagination are capable of doing. Therein lies the real essence of man, that which is neither born nor dies. The intellect is troubled by matter, and endeavours to disengage itself by giving to the body only such care as is indispensable to existence. Its beatitude and its pain are in a direct ratio to its union with God, or its distance from him. By ecstacy man unites himself with God. Then the universe appears to him only God, whose light is shed over all, but manifests itself in greater splendour in the purest beings. Multiplicity exists only for the senses. It disappears before the intellect which has disengaged itself from matter.

This romance acquired immense popularity. It has been translated into Latin, English, Dutch, and German,* and has disseminated Alexandrian and Arabian ideas in obscure quarters where otherwise they would never have penetrated.

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* POCOCKE, in 1671, published the Arabic text with a Latin version: *Philosophus Autodidactus sive Epistola Abi Jaafar ebn Tofail de Haï ebn Yokdhan.* It was reprinted in 1700. There have been three English versions, the last by OCKLEY, under this title. *The Improvement of Human Reason, exhibited in the Life of Haï Ebn Yokdhan*, 1711 A German appeared in 1726: *Der von sich selbst gelehrte Weltweise;* and another in 1783: *Der Natur-Mensch, oder Geschichte des Haï Ebn Yokdan.*

## § VII. ALGAZZĀLI.

We now turn back to the eleventh century again, to bring forward the name of an illustrious and independent thinker Algazzāli, the 'Light of Islam,' the 'Pillar of the Mosque,' who is known under the names of Gazzali, Ghazail, Algazel, and was at one time familiar to European thinkers through the attacks of his adversary Averroes.*

Algazzāli (Abou-'Hamed-Mo'hammed ibn Mo'hammed Al-Ghazâli) was born in the city of Tous A.D. 1058. His father was a dealer in cotton-thread (*gazzal*), from whence he drew his name. Losing his father in early life, he was confided to the care of a Soufi. The nearest approach to what is meant by a Soufi is what we mean by Mystic. The influence of this Soufi was great. No sooner had the youth finished his studies, than he was appointed professor of theology at Bagdad, where his eloquence achieved such splendid success that all the Imans became his eager partisans. So great was the admiration he inspired, that the Mussulmans sometimes said, 'If all Islam were destroyed, it would be but a slight loss, provided Algazzāli's work on the "Revivification of the Sciences of Religion" were preserved.' This work, probably owing to its originality, was never translated into Latin during the Middle Ages, and remained a closed book to all but Arabian scholars until M. Schmölders published his version. It bears so remarkable a resemblance to the *Discours sur la Méthode* of Descartes, that had any translation of it existed in the days of Descartes, every one would have cried out against the plagiarism.

Like Descartes, he begins with describing how he had in vain interrogated every sect for an answer to the mysterious problems which 'disturbed him with a sense of things unknown;' and how he finally resolved to discard all authority, and detach himself from the opinions which had been instilled into him during the unsuspecting years of childhood. 'I said to myself,' he proceeds, 'My aim is simply to know the truth of things; consequently it is indispensable for me to ascertain what is *knowledge*. Now, it was evident to me that *certain knowledge* must be that which explains the object to be known in such a manner that no doubt can remain, so that in future all error and conjecture respecting it must be impossible. Not only would the understanding then need no efforts to be convinced of certitude, but security against error is in such close connection with knowledge, that even were an apparent proof of its falsehood to be brought forward it would cause no doubt, because no suspicion of error would be possible. Thus, when I have acknowledged ten to be more than three, if any one were to say, "On the contrary, three is more than ten; and to prove the truth of my assertion, I will change this rod into a serpent;" and if he *were* to change it, my conviction of his error would remain unshaken. His manœuvre would only produce in me admiration for his ability. I should not doubt my own knowledge.

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* The most complete account of his life will be found in VON HAMMER: *O Kind! Die berühmte ethische Abhandlung Gasali's*, Vienna, 1838. MUNK: *Mélanges*, p. 366, and SCHMÖLDERS: *Essai sur les Écoles philosophiques chez les Arabes*, Paris, 1842. From my notice of this last-named work, in the *Edinburgh Review*, April 1847, I have incorporated some passages in the ensuing pages.

'Then was I convinced that knowledge which I did not possess in this manner, and respecting which I had not this certainty, could inspire me with neither confidence nor assurance; and no knowledge without assurance deserves the name of knowledge.

'Having examined the state of my own knowledge, I found it divested of all that could be said to have these qualities, unless perceptions of the senses and irrefragable principles were to be considered such. I then said to myself, Now having fallen into this despair, the only hope remaining of acquiring incontestable convictions is by the perception of the senses and by necessary truths. *Their* evidence seemed to me indubitable. I began however to examine the objects of sensation and speculation, to see if they could possibly admit of doubt. Then doubts crowded upon me in such numbers that my incertitude became complete. Whence results the confidence I have in sensible things? The strongest of all our senses is sight; and yet, looking at a shadow and perceiving it to be fixed and immovable, we judge it to be deprived of movement; nevertheless experience teaches us that, when we return to the same place an hour after, the shadow is displaced; for it does not vanish suddenly, but gradually, little by little, so as never to be at rest. If we look at the stars, they seem as small as money pieces; but mathematical proofs convince us they are larger than the earth. These and other things are judged by the senses, but rejected by reason as false. I abandoned the senses, therefore, having seen all my confidence in their truth shaken.

'Perhaps, said I, there is no assurance but in the notions of Reason: that is to say, first principles, *e. g.* ten is more than three; the same thing cannot have been created and yet have existed from all eternity; to exist and not to exist at the same time is impossible.

'Upon this the senses replied: What assurance have you that your confidence in Reason is not of the same nature as your confidence in us? When you relied on us, Reason stepped in and gave us the lie; had not Reason been there you would have continued to rely on us. Well, may there not exist some other judge superior to Reason, who, if he appeared, would refute the judgments of Reason in the same way that Reason refuted us? The non-appearance of such a judge is no proof of his non-existence.'

These sceptical arguments Algazzāli borrowed from the Grecian sceptics, and having borrowed them, he likewise borrowed from Grecian mystics, of the Alexandrian school, the means of escape from scepticism. He looked upon life as a dream.

'I strove in vain to answer the objections. And my difficulties increased when I came to reflect upon sleep. I said to myself, During sleep you give to visions a reality and consistence, and you have no suspicion of their untruth. On awakening you are made aware that they were nothing but visions. What assurance have you that all you feel and know when awake does actually exist? It is all true as respects your condition at that moment; but it is nevertheless possible that another condition should present itself which should be to your awakened state that which your awakened state now is to your sleep; so that in respect to this higher condition your waking is but sleep.'

If such a superior condition be granted, Algazzāli asks whether we can ever attain to participation in it. He suspects that the *Ecstasy* described by the Soufis must be the very condition. But he finds himself philosophically unable to escape the consequences of scepticism: the sceptical arguments could only be refuted by demonstrations. But demonstrations themselves must be founded on first principles; if *they* are uncertain, no demonstration can be certain.

'I was thus forced to return to the admission of intellectual notions as the basis of all certitude. This however was *not by systematic reasoning and accumulation of proofs, but by a flash of light which God sent into my soul.* For whoever imagines that *truth can only be rendered evident by proofs*, places narrow limits to the wide compassion of the Creator.'

Thus we see Algazzāli eluding scepticism just as the Alexandrians eluded it, taking refuge in faith. He then cast his eyes on the various sects of the faithful, whom he ranged under four classes.

I. The *Dogmatists*: those who ground their doctrine wholly upon reason.

II. The *Bastinaís*, or *Allegorists*: those who receive their doctrine from an Imam, and believe themselves sole possessors of truth.

III. The *Philosophers*: those who call themselves masters of Logic and Demonstration.

IV. The *Soufis*: those who claim an *immediate intuition*, by which they perceive the real manifestations of truth as ordinary men perceive material phenomena.

These schools he resolved thoroughly to question. In the writings of the Dogmatists he acknowledged that their aim was realized—but their aim was not his aim: 'Their aim,' he says, 'is the preservation of the Faith from the alterations introduced by heretics.' But his object was philosophical, not theological; so he turned from the Dogmatists to the Philosophers, studying their works with intense ardour, convinced that he could not refute them until he had thoroughly understood them. He did refute them, entirely to his satisfaction;* and having done so, turned to the Soufis, in whose writings he found a doctrine which required the union of action with speculation, in which virtue was a guide to knowledge. The aim of the Soufis was to free the mind from earthly considerations, to purify it from all passions, to leave it only God as an object of meditation. The highest truths were not to be reached by *study*, but by *transport*—by a transformation of the soul during *ecstasy*. There is the same difference between this higher order of truth and ordinary science, as between being healthy and knowing the definition of health. To reach this state it was necessary first to purify the soul from all earthly desires, to extirpate from it all attachment to the world, and humbly direct the thoughts to our eternal home.

'Reflecting on my situation, I found myself bound to this world by a thousand ties, temptations assailing me on all sides. I then examined my actions. The best were those relating to instruction and education; and even there I saw myself given up to unimportant sciences, all useless in another world. Reflecting on the aim of my teaching, I found it was not pure in the sight of the Lord. I saw that all my efforts were directed towards the acquisition of glory to myself.'

Thus did Philosophy lead him to a speculative Asceticism, which calamity was shortly afterwards to transform into practical Asceticism. One day, as he was about to lecture to a throng of admiring auditors, his tongue refused utterance: he was dumb. This seemed to him a visitation of God, a rebuke to his vanity, which deeply afflicted him. He lost his appetite; he was fast sinking; physicians declared his recovery hopeless, unless he could shake off the sadness which depressed him. He sought refuge in contemplation of the Deity.

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* In the ninth volume of the works of AVERROES there is a treatise by ALGAZZĀLI, *Destructio Philosophorum*, which contains his refutation of the philosophical schools

'Having distributed my wealth, I left Bagdad and retired into Syria, where I remained two years in solitary struggle with my soul, combating my passions and exercising myself in the purification of my heart, and in preparation for the other world.'

He visited Jerusalem, and made a pilgrimage to Mecca, but at length returned to Bagdad, urged thereto by 'private affairs' and the requests of his children, as he says, but more probably urged thereto by his sense of failure, for he confesses not to have reached the *ecstatic* stage. Occasional glimpses were all he could attain, isolated moments of exaltation passing quickly away.

'Nevertheless I did not despair of finally attaining this state. Every time that any accident turned me from it, I endeavoured quickly to re-enter it. In this condition I remained ten years. In my solitude there were revelations made to me which it is impossible for me to describe, or even indicate. Enough if, for the reader's profit, I declare that the conviction was forced upon me that the Soufis indubitably walked in the true paths of salvation. Their way of life is the most beautiful, and their morals the purest that can be conceived.'

The first condition of Soufi purification is, that the novice purge his heart of all that is not God. Prayers are the means. The object is *absorption in the Deity*.

'From the very first, Soufis have such astonishing revelations that they are enabled, while waking, to see visions of angels and the souls of the prophets; they hear their voices, and receive their favours. Afterwards a transport exalts them beyond the mere perception of forms, to a degree which exceeds all expression, and concerning which we cannot speak without employing language that would sound blasphemous. In fact, some have gone so far as to imagine themselves to be *amalgamated with God,* others *identified with him,* and others to be *associated* with him. All these are sinful.'

Algazzâli refuses to enter more minutely into this subject; he contents himself with the assertion that whoso knows not Ecstasy knows prophetism only by name. And what is *Prophetism?* The fourth stage in intellectual development. The first, or infantile stage, is that of pure Sensation; the second, which begins at the age of seven, is that of Understanding; the third is Reason, by means of which the intellect perceives the necessary, the possible, the absolute, and all those higher objects which transcend the understanding.* After this comes the fourth stage, when another eye is opened by which man perceives things hidden from others—perceives all that will be—perceives things that escape the perceptions of Reason, as the objects of Reason escape the Understanding, and as the objects of Understanding escape the sensitive faculty. This is Prophetism. Algazzâli undertakes to prove the existence of this faculty:

'Doubts respecting Prophetism must refer either to its possibility or its reality. To prove its possibility it is only necessary to prove that it belongs to the category of objects which cannot be regarded as the products of intelligence: such, for example, as Astronomy or Medicine. For whoso studies these sciences is aware that they cannot be comprehended except by Divine inspiration, with the assistance of God, and not by experience. Since there are astronomical indications which appear only once in a thousand years, how could they be known by experience?† From this argument it is evident that it is very possible to perceive things which the intellect cannot conceive. And this is precisely one of the properties of Prophetism which has a myriad other properties; but these are only perceptible during Ecstasy by those who had the life of the Soufis.'

Algazzâli wrote a special treatise against the philosophers in which he arraigns them under twenty heads, the most interesting to us being that of causality. ‘En somme,’ says M. Munk, ‘tout le raisonnement d’Al-Gazâli peut se ramener à ces deux propositions : 1°. Lorsque deux circonstances existent toujours simultanément, rien ne prouve que l’une soit la cause de l’autre ; ainsi par exemple, un aveugle-né à qui on aurait donné la vue pendant le jour et qui n’aurait jamais entendu parler du jour ni de la nuit, s’imaginerait qu’il voit par l’action des couleurs qui se présentent à lui, et ne tiendrait pas compte de la lumière du soleil par laquelle les couleurs font impression sur ses yeux. 2°. Quand même on admettrait l’action de certaines causes par une loi de la nature, il ne s’ensuit nullement que l’effet, même dans les circonstances analogues et sur des objets analogues, soit toujours le même ; ainsi le coton peut, sans cesser d’être le coton, prendre (par la volonté de Dieu) quelque qualité qui empêche l’action du feu, comme on voit des hommes, au moyen d’emplâtres faits avec une certaine herbe, se rendre incombustibles. En un mot, ce que les philosophes appellent la loi de la nature, ou le principe de causalité, est une chose qui arrive *habituellement*, parceque Dieu le veut, et nous l’admettons comme certain parceque Dieu, sachant dans sa prescience que les choses seront presque toujours ainsi, nous en a donné la conscience. Mais il n’y a pas de loi immuable de la nature qui enchaîne la volonté du Créateur.’

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* KANT's three psychological elements, *Sinnlichkeit, Verstand, Vernunft.*

† O sancta simplicitas!

I have given these arguments against causality partly to exhibit the style of thought which was considered powerful in those days, and partly to add one more to the many illustrations of historical misapprehension which the carelessness of writers propagates. Having read what Algazzāli taught, the reader will be somewhat amazed to find M. Renan saying of it : ‘Hume n’a rien dit de plus.’[†]

The influence of Algazzāli on Europe was null, but on the East it was immense ; as M. Munk says, it struck a blow at philosophy ‘dont elle ne pût plus se relever, et ce fut en

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[*] Munk : *Mélange*, p. 379.

[†] Renan : *Averroès*, p. 74.

Espagne qu'elle traversa encore un siècle de gloire et trouva un ardent défenseur dans le célèbre Ibn-Roschd.' To him we now pass.

## § VIII. AVERROES.

Averroes (Aboulwalid Mo'hammed ibn Ahmed ibn Mo'hammed ibn-Roschd) was born at Cordova about 1120.

His family belonged to the most considerable in Andalusia, high in office, high in esteem. He was greatly befriended by Abubacer, and was intimate with the family of Avenzoar, his colleague at the court of Yousouf, during whose reign he continued in high favor and was employed in various important offices, so that his works were written amid continual interruptions. This favor seems to have been increased under Yousouf's successor, Yacoub Almansour, who was fond of discussing scientific and philosophic questions with him. Indeed Averroes occasionally so far forgot etiquette as to address his sovereign thus: 'Listen, O my brother!' Such intimacy naturally excited the jealousy of those less favored, and perhaps by their machinations, or perhaps from some imprudence on his part, he suddenly fell into disgrace. The pretext was his heterodoxy. He was banished from Cordova, and his works were condemned to the flames—an exception being made in favor of the works on medicine, arithmetic, and elementary astronomy.

Almansour issued an edict declaring that God had ordained hell fire for those who impiously asserted truth to be given by Reason alone. From such a sovereign such a declaration must be attributed to the kind of coercion exercised by priests over all but the most self-willed rulers. At any rate, the disgrace of Averroes was only temporary. The edict was rescinded, and Averroes recalled. But the end was near. He died at Morocco in 1198.

His disgrace and the accusations of heterodoxy greatly occupied the attention of contemporaries. Arabian Philosophy, introduced under Hakem in the tenth century, and cultivated with so much zeal, now began to struggle for existence against the religious fanaticism which was finally to suppress it. The eternal contest between Reason and Faith, between free thought and despotic ignorance, had been growing fiercer every year; even Algazzâli had thrown himself by a flank movement against philosophy. The priestly party became strong enough to enforce its views even on sceptical Emirs, especially in times of political trouble, when the support of the ignorant multitude became of consequence. In Spain, as elsewhere, the mass of men cherish an instinctive dislike to philosophers, partly because early taught to dread Inquiry as inimical to Religion, and partly because the implied equality which exists between members of a church, where all alike share the blessings and the glory of illumination, is, in the presence of philosophers, rudely set aside, and replaced by an irresistible sense of inequality. The creed of the Bishop is the creed of the grocer. But the philosophy of that grocer is in no sense the philosophy of a Professor. Therefore it is that the Bishop will be revered where the Professor will be stoned. Intellect is that which man claims as specially his own; it is the one limiting distinction; and thus the multitude, so tolerant of the claims of an aristocracy of birth or of wealth, is uneasy under the claims of an aristocracy of intelligence.

The term philosophy is used by Mohammedans of our day as synonymous with infidelity, impiety, immorality. Nay, one finds this interpretation not altogether unknown in Europe, and that, too, in circles claiming a high degree of culture. In Spain, during the twelfth century, this interpretation became general. 'A theological reaction,' says M. Renan, 'analogous to that which in the Latin Church followed the Council of Trent, undertook to recover its ground by violence. Islamism, like all religions, has gone on strengthening itself and obtaining a more absolute faith from its adepts. The greater part of Mahomet's companions hardly believed in his supernatural mission; incredulity was rife during the first six centuries; but since then there has not been a doubt, not a protest. That has come to pass in Islamism and in Catholicism in Spain which would have come to pass all over Europe if the religious movement at the close of the sixteenth and beginning of the seventeenth centuries had succeeded in arresting rational development.'

Aristotle became infamous in Islam; all the philosophers were proscribed, and their works destroyed. Hence it was that Averroes, who during four centuries was venerated by Jews, and highly esteemed by Christians, has left scarcely any trace on the minds of Arabs. Hence also the great rarity of his works in the original; while Hebrew and Latin versions abound in all great collections of manuscripts. The published Latin versions are very numerous. From 1480 to 1580, Renan tells us, scarcely a year elapsed without some new edition appearing. In Venice alone more than fifty editions were published, of which fourteen or fifteen are more or less complete.*

The claims of Averroes to European admiration were as a physician and a commentator on Aristotle. In the former character he was surpassed by Avicenna. Indeed we have only to learn that he followed Aristotle's teaching in preference to that of Galen, whenever the two were at variance, to indicate the slight reliance which can be placed on his medical knowledge. As a commentator he was unrivalled; and for a considerable period Philosophy in Spain and among the schoolmen may be defined thus: 'Nature interpreted by Aristotle, Aristotle interpreted by Averroes.'

The superstitious servility with which he accepted the dicta of the Stagyrite is indicated in the declaration that 'Aristotle initiated and perfected all the sciences, no writer before him being worthy of mention, no writer after him having, in the course of fifteen centuries, added anything of importance or detected any serious error.' Yet it is unanimously affirmed by modern scholars that Averroes, and the Arabian commentators generally, are far from faithful interpreters of Aristotle. They attach themselves in preference to certain ideas obscurely indicated by the Stagyrite, and give these an undue prominence.

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* The editio princeps appeared at Padua in 1472. Towards the close of the 16th century the reprints became rarer; only a few of the medical works appeared. In the 17th century the dust began to settle on those once famous folios, from which it is never likely to be shaken.

In three different works Averroes presented his master. 1. The *Great Commentary*, which gives each paragraph of the text, and interprets it sentence by sentence, introducing theoretical discussions as digressions. This form of commentary is peculiar to Avicenna, who borrowed it from that adopted in regard to the Koran. 2. The *Middle Commentary*, which merely cites the first words of the original paragraphs, and then weaves together text and interpretation after the manner of Avicenna—a form subsequently adopted by Albertus Magnus. 3. The *Third Commentary* is simply one of paraphrase and analysis, in which Averroes expounds the opinions of Aristotle as delivered in various treatises.

Error is long-lived. Averroes having once been named as the first who translated Aristotle from the Greek into Arabic, the statement has become stereotyped;* but there are three reasons against it. 1. Neither Averroes, nor any other Mohammedan in Spain, could read Greek.† 2. Arabic translations of Aristotle existed three centuries before the time of Averroes. 3. The Arabic versions of Greek writers were never made direct from the Greek, but from Syriac versions.

The barbarous jargon which the European schools had to master, when they opened the Latin versions of Averroes, may be imagined when it is known that these were Latin translations from a Hebrew version of an Arabic commentary on an Arabic translation of a Syriac version of a Greek text.

Averroes, like all the schoolmen and Arabians, exerted his ingenuity in discussing Matter and Form, substance and accident, virtual and actual, intellect and agent, but he added nothing to what was known in his day, although as the last of the Arabs he had the reputation which often falls upon those who inherit what others invent. He exercised an important influence on the mind of Europe—especially on the development of that spirit of inquiry which Algazzâli had endeavoured successfully to discredit in the East, and which the Church was crushing in the West. The instinct of Theology early detected whither he tended; and Averroism became, as in later years Spinozism became, a synonym of infidelity. There are indeed several passages in which Averroes is explicit. I quote one given by Munk from the Hebrew version of the Commentary—a passage suppressed in the Latin version. 'The religion peculiar to philosophers is the study of that which is; for no sublimer worship can be given to God than the knowledge of his works, which leads to the knowledge of him in his reality. That is the noblest action in his eyes; the vilest is taxing as error and vain presumption the effort of those who practise this worship, and who in this religion have the purest of religions.' No wonder such a passage was suppressed! Here is another, which was not suppressed: 'Among dangerous fictions we must count those which tend to regard virtue only as a means of arriving at happiness. This nullifies virtue; since the abstaining from vice is in the hope of being repaid with usury. The brave man will only seek death in order to escape a greater evil. The just man will respect the property of another only to acquire more.' And alluding to the myths respecting a future world, he says: 'These fables only serve to falsify the minds of the people, especially of children, without producing any real amelioration. I know men perfectly moral who reject all such fictions, and who are quite as virtuous as those who accept them.'

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* MUNK and RENAN name some of the unsuspecting repeaters of this tradition: NIPHUS, PATRIZZIO, MARC ODDO, BRUCKER, SIGONIO, TOMASINI, GASSENDI, LONGUERUE, MORERI, D'HERBELOT, CASIRI, BUHLE, HARLES, ROSSI, MIDDELDORPF, TENNEMANN, DEGERANDO, JOURDAIN, and the *Conversations Lexicon*.

† The ignorance of Averroes is pointedly shown by LUDOVICUS VIVES: *Opera* I. 141. Bâle, 1555.

## § IX. AVICEBRON.

One of the writers who exercised most influence over the Christian thinkers of the thirteenth century was the author of the *Fons Vitæ*, known by the name of Avicebron, and believed to be one of the Arabian philosophers, but now, thanks to the researches of M. Munk, proved to have been the renowned Jew, Ibn-Gebirol. He was contemporary with Avicenna, but his philosophical work seems to have been entirely neglected both by Arabs and Jews, and to have found its public among the Christians, who studied it so eagerly that the learned Jourdain declares a true knowledge of that period to be impossible to those unacquainted with the *Fons Vitæ*.* The translation and analysis of this work given by M. Munk render it accessible to all.

The part played by the Jews as physicians,† merchants, bankers, has often been appreciated. The part played by them as thinkers is less frequently mentioned. Yet it has been considerable. Not to name their great monotheistic contribution, let us only pause for a moment on the three great names of Philo, Ibn-Gebirol, and Spinoza, all three departing from the doctrines taught in the Synagogue, all three teaching a doctrine profoundly opposed to Christianity, yet all three promulgating ideas that had an irresistible fascination overpowering even the repulsion their heterodoxy excited. Confining ourselves to the more special topic now before us—the Jews must be regarded as the chief instruments whereby the Arabian philosophy was made effective on European culture. Even in Spain the Jews were the chief students of this philosophy. 'Dans le monde musulman comme dans le monde chrétien,' says M. Munk, 'les juifs, exclus de la vie publique, voués à la haine et au mépris par la religion dominante, toujours en présence des dangers dont les menaçait le fanatisme de la foule, ne trouvaient la tranquillité et le bonheur que dans un isolement complet. Ignorés de la société, les savants juifs vouaient aux sciences un culte désintéressé.'

And as translators and transmitters of the Arabian culture they had varied opportunities. Hated and persecuted though they were, the ability and perseverance of the Jews made them everywhere necessary to princes and nobles. The common people, feeling no need of culture, and having no chance of borrowing money, indulged in unrestrained religious hatred; but the great pledged their estates to Hebrew money-lenders, and submitted their bodies to Hebrew physicians, while the learned, unsuspectingly, submitted their minds to Hebrew thinkers and translators. The facility with which the Jews mastered languages made them ready interpreters between Mussulman and Christian. It was through their translations, and through their original thinkers, such as Avicebron (Ibn-Gebirol) and Moses Maimonides, that the West became leavened with Greek and Oriental thought.*

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* JOURDAIN: *Recherches sur les traductions latines d'Aristote*, p. 197.

† Consult CARMOLY: *Hist. des Médecins Juifs anciens et modernes*, Bruxelles, 1844.

The student who is tempted to open the *Fons Vitæ*, or to read M. Munk's analysis of it, will be struck with the 'familiar faces' of speculations which he has attributed to modern Germans, together with speculations of the Platonic and Peripatetic schools: I cannot afford the space necessary to any exposition of them.

In reviewing the labours of the Arabians we are struck with the facts that they were all men of high family, holding important positions; they were all surprisingly voluminous; they were all Aristotelians; they were all given more or less to science, especially to Medicine. Nevertheless, in spite of their advantage of position, in spite of their ardour, they left Science very much as they found it, and cannot be said to have advanced Philosophy. No germinal discoveries in Science are due to them. They improved instruments; they collected facts; they kept alive the sacred fire. But their labours were frustrated by their Method; and the only advantage the world received from them, was the preservation of what the illustrious Greeks had done; and the scepticism which they impressed on European thought.

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* M. MUNK is guilty of a strange oversight in saying that the scholastic dispute of Nominalism and Realism sprang from Arabian Aristotelianism (*Mélanges*, p. 335), for although it is perfectly true that ALBERTUS MAGNUS and THOMAS AQUINAS studied Aristotle in Latin versions made from Hebrew versions, it is no less true—as we have seen—that the scholastic quarrel began long before Arabian commentators were heard of. M. JOURDAIN (*Recherches*, p. 210), and M. RENAN (*Averroes*, p. 175) assure us that there is no citation of any Arabian writer by the scholastics before the beginning of the 13th century. It is true that towards the middle of the 12th century GONDISALVI and others had translated certain writings, but they attracted no attention from nominalists or realists. In the 11th century the dispute had already developed all its leading characters.

All the patronage of Emirs and Caliphs, all the efforts of philosophers, passed away without founding any large basis on which succeeding generations could build. In astronomy, in chemistry, in medicine, the Arabs made some subordinate improvements, largely enriching the store of observed facts, but they discovered no laws, they originated none of the germinal conceptions which act as impulses and regulators to research. The successors of the great Hipparchus had fatally neglected Observation; and the science he created languished in consequence. The Arabs, according to Delambre,* devoted their attention chiefly to Observation; and their failure is one among the many notable examples of the impotence of Observation, when undirected by a true Method, which should teach *what* is to be observed, and *how* to observe it. They had adopted the Mathematics of the Alexandrians; but unhappily they had also adopted the Metaphysics of the Alexandrians and the Astrology of the Chaldeans. Hence it was to such problems as the influences of the stars on the destinies of men, that they applied the glorious instrument of Trigonometry which had rendered Astronomy possible as a science. Moreover their superstitious reverence for Greek theories made progress impossible.

This did not thwart their influence on Europe. There are writers who question that influence, and who affirm that the Revival of Learning would have brought the Greek thinkers into the course of European evolution disengaged from the Arabian misapprehensions. But it seems to me that the intellectual condition of Europe at the close of the twelfth century was fast relapsing under a despotism which would have prevented the influence of Greek thought from taking effect, unless some other concurrent causes had been at work. It is quite true that the authority of Aristotle was never wholly lost, even during the darkest of the dark ages. It is true that a tradition of ancient glory survived, though the light itself was nearly extinct. But we must guard against exaggeration on this subject. It is misleading to assert, without qualification, that culture was never entirely lost, because a few monasteries preserved a few works of Greek and Latin writers which no one read. M. Jourdain says that throughout the Middle Ages Seneca's Natural Questions, Lucretius,* the philosophic works of Cicero, Apuleius, Cassiodorus, and Boethius were read. What then? Do these represent ancient culture? and were even these works appreciated? † The slight tincture of ancient learning which was preserved, had no chance against the massive ignorance of the clergy.

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* Delambre: *Astronomie du moyen âge*, xxxix. 'Ils étaient devenus possesseurs de tous les écrits des Grecs, il était assez naturel qu'ils voulussent reconnaître par eux-mêmes l'exactitude de ces tables qui devaient servir à tous leurs calculs astronomiques et astrologiques.'

With respect to Aristotle, the discussions as to whether his writings were, or were not, made known to Europe through the Arabs may be considered finally settled by M. Jourdain. As a logician he was known; but not until the beginning of the thirteenth century, when his metaphysical and scientific works had been introduced by the Arabs, did he become *princeps philosophorum*, and estimated more than as a logician.

Besides the introduction of Aristotle, there was an agitating scepticism stimulated by the works of the Arabs, indirectly through their instigations to positive research, directly through the suggestion that all religions have a similar basis: so far from one alone possessing a divine origin, every other being the product of error and imposture, all are but the efforts of the human mind to solve the great mystery; and if one solution be more acceptable than another, it must reconcile its pretensions with human Reason. This idea, hazily present to the minds of several thinkers in earlier days, has of late years been rapidly growing into clearness and the authority of clearness. It could not have emerged unless there had been intimate or protracted communion between Christians, Jews, and Mohammedans. So long as nations were kept apart they naturally regarded each other's religion as a mass of absurd superstitions; no sooner was there an intellectual fusion than the agreement in ideas and sentiments, and the similarity in pretensions, became obvious to many sagacious intellects. It was in vain that orthodox Christians undertook to refute Judaism and Islamism: their very refutations were promulgations of the ideas attacked; they displaced the vague notions which had been held in horror or contempt, by definite notions which were not always seen to be so erroneous as the refuter affirmed. This indeed is the strategical mistake of all polemical Theology. Silence is the strongest fortress. When Theology attempts an answer, it appeals to Reason, and that appeal is often fatal to Faith. Theology is not founded upon Reason, and should seek no support in demonstration.

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* I question whether Lucretius was much read before the Renaissance; his opinions must have been too offensive. I cannot find any evidence of his having been read. In Alcuin's poem (quoted by Heeren, *Gesch. d. class. Litt.* i. 132–3), where the authors then noted are named, Lucretius does not appear. In the Bobbio Catalogue his name occurs among the classic writers; but this is the only trace I have been able to find.

† Compare Eichhorn: *Allgemeine Geschichte der Cultur*, II. 54, 58. *Histoire littéraire de la France*, VI. 6. Wharton: *Hist. of English Poetry*, I. Diss. 2. Rémusat: *St. Anselme de Cantorbéry*, p. 90.

There had been scepticism before the thirteenth century, but no real incredulity; this doctrine, and that doctrine, had been disputed, rejected; but the foundation of Christian doctrine had never been touched. It was the foundation which was reached when the idea was reached that all religions have a common ground. This was in the thirteenth century, and may be traced to Arabian influence. The conception of Mahomet as a prophet and founder of a monotheistic creed, led to the conclusion that there were three religions founded on analogous principles, and all three mingled with fables. It was this which originated the myth of the work *De tribus Impostoribus*.*

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* RENAN: *Averroës*, p. 224. 'C'est ici l'idée incrédule par excellence; comme toutes les idées nouvelles, elle correspondit à un agrandissement de la connais-

The introduction of Arabian writings divides the history of the Middle Ages into two markedly distinct epochs. In the first epoch Philosophy was not only servile to the Church, it was without materials, and without a Method. It lived upon the scanty remains of ancient learning, such as were contained in the compilations of Martianus Capella, Bede, and Isidore of Seville. In the second epoch a vast accession of material, in the works of Aristotle and the Alexandrians commented by the Arabians, prepared the way for the positive Method.

Before glancing at this second epoch, it will be well if we open Isidore of Seville's Encyclopædia, the *Etymologiarum libri XX.*, as an index of the culture of ages when abridgments replaced research, and when the explanation of terms was held to be knowledge. For several centuries this was the text book; and the reader, on learning the nature of its contents, will doubtless share my surprise when I first became acquainted with it, in my eagerness to gain some definite idea of the culture of those times.

The first book is on Grammar. In thirty-nine chapters he skims over this great topic, which in those days had supreme importance, and not a single observation of the slightest value escapes him. He is content to give a verbal explanation of grammatical terms without one philosophical rule. Four chapters on Fable and History succeed. As samples of his treatment of these subjects I quote two of these chapters below.* No amount of description will convey a better idea of the work.

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sance de l'univers. . . . Quel ébranlement pour les consciences, le jour où l'on s'aperçoit qu'en dehors de la religion que l'on professe, il en est d'autres qui ne sont pas entièrement dénuées de raison !' Among literary curiosities this (imaginary) work *De tribus Impostoribus* is certainly one of the most instructive. Its authorship has been confidently assigned to various writers, including the sceptical emperor Frederick II. Its abominable doctrines have elicited eloquent refutations and indignant protests. And now the proof is overwhelming that there never was such a work at all.

* Cap. xli. *De Historia.* Historia est narratio rei gestæ, per quam ea, quæ in præterito facta sunt, dignoscuntur. Dicta autem græce historia ἀπὸ τοῦ ἱστορεῖν, id est a *videre* vel *cognoscere.* Apud veteres enim nemo conscribebat historiam, nisi is qui interfuisset, et ea, quæ conscribenda essent, vidisset. Melius enim oculis quæ fiunt deprehendimus quam quæ auditione collegimus. Quæ enim videntur

The second book, consisting of thirty-one brief chapters, treats of Rhetoric and Dialectics in the same meagre style. The third book, of seventy-one chapters, expounds the four mathematical sciences then studied, Arithmetic, Geometry, Music, and Astronomy. They will be attacked with some eagerness by the student anxious to learn what was known and thought on these subjects: but a few pages will allay that eagerness. True to the principle of giving verbal explanations of the various terms current in these sciences, the worthy Bishop never deviates into philosophy, except in such passages as that on the power of music,* or the brief yet interesting remarks on Astrology as superstitious.† How completely the magnificent labours of Hipparchus and Ptolemy had vanished from the scene, how utterly their results and methods had passed away, may be estimated on finding Isidore, in his chapter on the size of the sun and the moon, unable to give more precise information than that the sun is larger than the earth, and the moon less than the sun.

The fourth book is on Medicine, and consists of thirteen chapters of etymology. The fifth book, strangely enough, combines Legislation and Chronology! The sixth treats of Scripture canons, of Libraries, of Books, Bookbinding,

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sine mendacio proferuntur. Hæc disciplina ad grammaticam pertinet, quia quidquid dignum memoria est, literis mandatur. Historiæ autem ideo monumenta dicuntur, quod memoriam tribuunt rerum gestarum. Series autem dicta per translationem a sertis florum invicem comprehensorum.

Cap. xliii. *De utilitate Historiæ.* Historiæ gentium non impediunt legentes in iis, quæ utilia dixerunt. Multi enim sapientes præterita hominum gesta ad institutionem præsentium historiis indiderunt. Siquidem et per historiam summa retro temporum annorumque supputatio comprehenditur, et ea per consulum regumque successum multa necessaria perscrutantur. *Opera*, ed. Arevali, Romæ, 1795, 7 vols. 4to., iii. 73.

* *Op. cit.* p. 133.

† Cap. xxvii. *De differentia Astronomiæ et Astrologiæ.* 'Inter astronomiam autem et astrologiam aliquid differt. Nam *astronomia* conversionem cœli, ortus, obitus, motusque siderum continet, vel qua ex causa ita vocentur. *Astrologia* vero partim naturalis, partim superstitiosa est. *Naturalis*, dum exsequitur solis et lunæ cursus, vel stellarum certasque temporum stationes. *Superstitiosa* vero est illa quam mathematici sequuntur qui in stellis augurantur, quique etiam duodecim signa per singula animæ vel corporis membra disponunt, siderumque cursu nativitates hominum et mores prædicere conantur.'—P. 144.

Writing materials, and the determination of Easter. The seventh of God, Angels, Prophets, and Monks. The eighth of the Jews and their sects—among which there is a piquant mention of the heretics named *Hemerobaptistæ*, who carried the notion of cleanliness being akin to godliness to the absurd length of washing their clothes and bodies daily!* The list of Christian heretics, which succeeds, is interesting from the minuteness of the enumeration, though nothing can be more meagre than the indication of their opinions.

The ninth book treats of Languages, the Names of nations, and of Civil and Military Titles. The tenth is an alphabetical array of etymologies, absurd enough. The eleventh treats of Man and Portents in four brief chapters, wherein we are told that *Homo* is the name given to man 'quia ex *humo* factus est;' and his body is called corpus 'quod *corruptum* perit.' Then follows an explanation of anatomical terms. The twelfth book is on Animals, without one ray of light. The thirteenth and fourteenth treat of Geography and Meteorology; the fifteenth of the origin of Kingdoms, of Public Edifices, and of Roads; the sixteenth of Mineralogy, Weights and Measures; the seventeenth of Agriculture; the eighteenth of War and Sports; the nineteenth of Ships, Architecture, and Clothes; and the final book of Food, Domestic Utensils, Carriages, and Agricultural Implements.

Anyone even superficially acquainted with the Philosophy of these days, has only to combine with it such Science as this encyclopædia furnishes, to form a conception of the culture which the Arabian influence came to vivify.

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* '*Hemerobaptistæ*, eo quod quotidie vestimenta sua et corpora lavent,' *op. cit.* p. 351.

# CHAPTER III.

## *THE RISE OF POSITIVE SCIENCE.*

### § 1. The Thirteenth Century.

THE thirteenth century opens a new era; there, and not in the sixteenth, we must recognise the origin, as far as any origin can be definitely assigned, of the modern era. Scholasticism was far from dead; indeed the most illustrious scholastics, Albertus Magnus, Aquinas, Duns Scotus, and Occam, have still to be summoned before us; but Scholasticism had propounded all its problems, all its methods, and all its solutions. The renowned doctors who succeeded could only manipulate the old forms. Meanwhile the most redoubtable enemy of Scholasticism, which was finally to drive it into utter and helpless rout, had appeared on the field.

Two social influences of incalculable importance now first appear: these are what Auguste Comte calls the Industrial and the Scientific elements. Society, on the Feudal system, was governed by two great powers, the military or temporal, and the clerical or spiritual. By the sixteenth century each had apparently established itself for perpetual dominion; yet a retrospective glance detects even there the seeds of inevitable dissolution; those seeds are the industrial and scientific tendencies. Society advanced, the military function gradually declined in importance; and the industrial function, as gradually, increased. The importance of the clerical function also declined as the widening thoughts of men slowly changed the general conception of the world, and as the incompetence of theological notions became daily more conspicuously contrasted with the certainties of Science. Society ceased to be based mainly on war. Peace permitted industrial development, and industry urgently demanded peace. The army then became the servant of society, and even as a servant its importance has slowly, but inevitably, declined. In like manner the Church, which formerly represented the spiritual power, which had regulated the beliefs, and with beliefs the actions of society, lost its supremacy and gradually lost its hold on the convictions, as one by one the various domains of thought were invaded by positive knowledge. Its position has now dwindled down to that of a friendly monitor, and even as such is only maintained by a constant struggle. Its very adherents only look to it for a solemn sanction, never for scientific guidance. It once claimed to decide all questions; none are put to it now, except such as have reference to another world. The affairs of this world have long passed out of its jurisdiction.

Such has been the result of six centuries of evolution, an evolution unsuspected in the thirteenth century, nor yet generally appreciated in our own. It has moved through fierce struggles. Both the military and clerical powers have as indubitably declined as the industrial and scientific powers have advanced. The separation of the temporal and spiritual is not yet completed, but the management of temporal affairs has passed from the hands of Force into the hands of Law; and the management of spiritual affairs has passed from the dominion of Faith to the dominion of Reason. A radical change has been effected in our general conception of the world; the belief in supernatural agencies has given place to an ever-widening belief in natural agencies. In other words, the theological point of view has been discarded in all questions not immediately affecting Religion. Instead of conceiving the world under the dominion of Volitions, in their very essence *variable*, we have learned to conceive it as under the dominion of Laws, in their nature *invariable*, and invariable because they are the modes of action of immanent powers, the relations of natural properties of things. This mighty change was slowly effected. Centuries of observation and meditation were necessary before the various and seemingly variable phenomena of the external order were suspected to arise from simple and invariable agencies; powers *of* the world and *in* it, not powers existing apart from the world in alienated majesty and sublime independence.

Such a change is indeed radical. It is opposed to all primitive conceptions, and is still resisted by the imperfectly cultivated mind. It is the conquest of scientific research, which first disturbed the primitive conception by proving that this Earth was very far from being the greatest object in the universe, to which all other objects were subordinate. Astronomy, with its rigorous methods, assigned the Earth its place among celestial bodies.* Afterwards Biology gave what may be regarded as the complementary demonstration by proving that Man was not the lord of creation, but simply the apex of the animal series. Instead of the universe being subordinated to him, it was proved to be a vast system of magnificent Life, of which he only formed a modest item. These ideas having taken possession of men's minds, prepared the way for the conception of Society itself being not less rigorously determined in its evolution by laws; so that just as in the life of an individual there are the successive Ages, in the life of Humanity there are successive Epochs, each age and each epoch being the product of that which went before it.

The results of this change in our conception of the world, by which the whole compass of phenomena, from the transit of a star to the creed of a nation, from the evolution of an organic cell to the evolution of Science, are all brought under Law—may be summed up under two heads, theoretical and practical. The theoretical result is the limitation of our speculative activity to the problems that are verifiable—a limitation which is an intensification of power by its economy of effort and definiteness of aim. The practical result is that we, having once detected the modes of action of the immanent powers, can often foresee what will occur under given conditions, and thus either we can modify them so as to adapt them to our needs, or we can resign ourselves to them where they are seen to be inevitable.

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* The admission of the fact that the Earth was small in comparison with other celestial bodies irresistibly suggested the idea of those bodies being also inhabited. Men struggled against this inference, and they struggle against it still. AQUINAS asserted that there could only be one inhabited world; and his grounds were these: if a second were admitted there would be no reason for denying a third, and so on to infinity, 'which would be contrary to truth and revelation.'

It was in the thirteenth century that the great social and intellectual influences began the work of dissolution and reconstruction. I cannot pause here to enumerate the varied claims of this epoch, the importance of its political, religious, and social struggles, the splendour of its Architecture, the rapid development of its Commerce; my business is with its Philosophy, and especially with the new directions impressed upon the movement of Philosophy by the introduction of Greek and Arabian science. At the close of the twelfth century Scholasticism had passed into Mysticism; urged by a weary sense of its impotence, Reason was in danger of once more becoming the obedient servant of Faith. We have now to see the twofold demand for Authority and Liberty, responded to by the installation of Aristotle, and the widening reach of physical research. These may be best considered in two eminent types, Albertus Magnus and Roger Bacon: the former is the most conspicuous figure of the century, and may be regarded as the incarnation of the principle of Authority; the latter is so distinguishably the prophet of modern Inquiry, that only in modern times has his true position been understood.

## § II. Albertus Magnus.

The 'ape of Aristotle,' as he was not unreasonably named, endeavoured to consolidate the theological conception of the world, by bringing all classes of phenomena within an encyclopædic system in harmony with that conception. I have only a second-hand acquaintance with his works. More than once, indeed, I have opened the ponderous folios with the determination to master at least some portion of their contents; but I shut them again with an alacrity of impatience which will be best comprehended by anyone who makes a similar attempt. In the analyses given by Jourdain, Hauréau, and Rousselot * may be read as much as most students will desire.

Albert, count of Bollstadt, was born at Lavingen, in Swabia, in the year 1193. After studying dialectics at Paris, mathematics and medicine at Padua, and metaphysics in many places, he joined the Dominicans, and became renowned as preacher and teacher. This indeed was his true vocation; and after tasting many and high honours, he resigned his bishopric and returned to his professorial chair at Cologne, and died there, aged eighty-seven, leaving behind him an immense reputation, and works which in Jammy's edition amount to twenty-one thick folios. Legend has hovered round his name. Vincent de Beauvais called him a magician, and the people believed in his magic, in quite another sense. Alchemy was his favourite study; and although all scientific inquiry had a suspicious relationship with the darker powers, alchemy was supposed to be, *par excellence*, the instrument of magic.

Albertus Magnus added nothing of his own as a contribution to Philosophy, but he powerfully affected the thought of his day by the encyclopædic character of his labours. He reproduced every one of Aristotle's treatises with commentary, and with such additions as the writings of the Arabs supplied. That he frequently misunderstood Aristotle may have been due as much to the corrupt Arabian sources on which he relied,† as to the theological bias with which he necessarily studied them. It is certain that both by nature and education he was indisposed to innovate, especially in questions which had a theological bearing. 'Whenever divine things are touched on,' he says, 'faith must predominate over reason, authority over argument;' and accordingly the decisions of Aristotle, authoritative as they are in matters of Philosophy, have nevertheless to give way to the decisions of the Church, whenever there seems to be a discrepancy: as to either of them giving way to the truth of things, the alternative is never thought of.

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* The work of M. Pouchet, *Histoire des Sciences Naturelles au Moyen Age, ou Albert le Grand et son Époque*, Paris, 1853, is a poor compilation from second-hand sources.

† See this circumstantially established by Jourdain: *Recherches sur les traductions latines d'Aristote*.

Nevertheless, in spite of his reverence for Authority, the fact that he was the first doctor in the Middle Ages who publicly commented on the various treatises of Aristotle sufficiently accounts for the eminence of his reputation. By spreading the knowledge of what Aristotle and the Arabians taught he enlarged the horizon of Philosophy, and stimulated men's minds to research in other directions than those in which Scholasticism hitherto had confined them. Physics, Alchemy, Natural History, Ethics, were indeed but imperfectly treated: it was a great thing for these subjects to be treated at all. Moreover Scepticism was aided in another way, unconsciously indeed, yet all the more effectively:—I allude to the plan Albertus uniformly pursues, and which was followed by all his successors, of stating the objections which can be raised against every thesis, and answering them serially. It is true that his mode of answering them is very little more than an interrogation of the authorities; but the mere habit of debate was certain to develope Scepticism.

The full development of his efforts is seen in Aquinas, the greatest of the scholastics. But I cannot pause here to sketch the portrait of the Angelic Doctor (born 1227, died 1274). Referring the student to the special historians of this epoch,* I must hasten on to the thinker who represents the critical and insurgent movement.

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* An interesting discussion of the question whether Aquinas did or did not hold the doctrine of 'sensible species' or 'ideas' as something intermediate between

## § III. Roger Bacon.

There is no writer during the whole of the Middle Ages so interesting, to those who are tracing the evolution of thought, as Roger Bacon; but my present limits do not permit of an exhaustive treatment of his labours, and as I propose to devote a special chapter to him in a future History of Science, I must be content here with a very rapid indication of the part he played, and refer the reader to the excellent sources named below.*

Roger Bacon is an energetic representative of the insurgent minds of the thirteenth century, and he had in common with the insurgent minds of most ages a noble vision of a coming future, and an extravagant confidence in the realisation of his hopes. An impatient scorn of contemporaries, and a fervent sympathy with all innovators, animate almost every page of his works; while his boastful confidence in his own knowledge, and in the mighty results that would be achieved could he once be allowed his own way, give a certain pathetic interest to his frustrated efforts. We learn from his casual indications that there was a group of independent thinkers, standing apart from the slothful ignorance of the many, and from the sterile activity of the scholastics, advocating greater freedom of thought and wider reach of inquiry, cultivating Mathematics and Physics, dreaming of great revolutions, and assailing the blind servility to texts and sentences. These were Roger Bacon's teachers and friends. Towering above them all is Robert Grossetete, bishop of Lincoln, a mathematician who despaired of Aristotle, and strove to find out for himself what the obscurity of translations kept hidden, who opposed the monks, opposed the pope, and impressed his

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the objects and the mind, will be found in Rousselot: *Études sur la phil. au moyen âge*, II. 250, and Hauréau: *De la phil. scolastique*, II. 177.

* Emile Charles: *Roger Bacon, sa vie, ses ouvrages, ses doctrines d'après des textes inédits.* Paris, 1861.—Rogeri Baconis: *Opera Inedita*, edited by J. S. Brewer. Published under direction of the Master of the Rolls. London, 1859. These, with the *Opus Majus*, edited by Jebb, furnish ample material. None of the accounts in the Histories of Philosophy are of value.

image on the popular mind, mingled with admiration and superstitious terror. A precursor of Bacon, he acquired the reputation of sorcerer; a precursor of Wiclif, he had called the pope Antichrist.*

Bacon early chose his career. While he regarded all the scholastics as barbarians in comparison with Aristotle and the Arabs, he was not prepared to accept even Aristotle as infallible. Experience was a surer guide; a little grammar and mathematics were preferable to all the metaphysic of the schools. He learned Greek, Arabic, Hebrew, Chaldaic—studied mathematics, alchemy, optics, and agriculture. He tells us that he had spent 2,000 livres in conducting experiments. People marvelled that he could survive his excessive labours. Unhappily, the fruits of forty years of study, fruits which in his estimation would feed the hungry world, it was his bitter lot to see himself forbidden to give out. In an evil hour he had joined the order of Franciscan monks. His superiors, either jealous, or alarmed at the tendencies they discovered, forbade his writing. If he ventured to instruct some curious brother, imprisonment on bread and water was his punishment, and his book was destroyed. He was treated like a disobedient schoolboy, or else like a suspected heretic. Books were refused him. If he attempted to teach his pupils how to calculate and to observe the stars, the influence of Satan was inferred.† Nor is it only in the Middle Ages that men reputed wise and undeniably pious have regarded the knowledge of Nature as indirectly aiding the designs of Satan, simply because such knowledge was not to be gained from the sources they were accustomed to regard as exclusively sacred. This will prepare us to understand how Pope Clement IV., desiring Bacon to send his work, nevertheless while authorising him to disobey his superior (tibi per Apostolica scripta præcipiendo mandamus, quatenus, non obstante præcepto Prælati cujuscunque contrario, vel tui Ordinis constitutione quacunque) urged upon him the necessity of doing it secretly and hastily (et hoc quanto secretius poteris facias et indilate). The pope had scientific yearnings, and was very curious to know what Bacon had to impart; but he knew the temper of the age, and he knew the power of the Franciscans.*

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* CHARLES: *Op. cit.* p. 7.

† M. CHARLES quotes an old ecclesiastical historian, who says that 'Friar Bungay was profoundly versed in mathematics, either through the inspiration of Satan, or the teaching of Roger Bacon.' Let me add the counter-statement of ROGER BACON, that the neglect of mathematics is the work of Satan: 'Et hoc diabolus procuravit quatenus radices sapientiæ humanæ ignorarentur.' *Opus Tertium* c. xx. p. 66.

The work Clement desired to have sent him was not yet written, as he supposed; but the expression of his desire was a welcome stimulus to Bacon, who replied, 'I feel myself elevated above my ordinary strength; I conceive a new fervour of spirit. I ought to be most grateful since your Beatitude has importuned me for that which I have most ardently desired to communicate, for that which I have laboured with immense toil, and brought into light after manifold expenses.' The task was rendered heavier by reason of his poverty. 'To place before Clement IV. a just account of researches carefully and continuously prosecuted for forty years,' says Mr. Brewer, 'required the free use of accomplished scribes, for whose services he could not look to his own Order. A laborious work on science and languages in the thirteenth century demanded a knot of accomplished transcribers possessed of more than average skill, who could construct tables, draw diagrams, and knew something of Greek and Hebrew. Where were such men to be procured?' Moreover, the pope had not ventured to interpose between Bacon and his superiors. 'You forgot,' wrote Bacon, 'to speak to my superiors in my excuse; and as I could not make known to them the secret, they threw obstacles in my way.' Nor was this the worst. 'There was another obstacle,' Bacon wrote, 'which had nearly proved subversive of the whole business; and that was want of money. For more than sixty French livres had to be expended . . . and your messengers would not lay out a single penny, although I told them I would send you word of the amount, and that every man's debt should be paid. You know that I have no money and can have none [as a Mendicant Friar], therefore I am prevented from borrowing.'

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* M. Ozanam: *Dante et la philos. catholique au 13ème siècle*, Louvain, 1847, p. 26, has a singularly misplaced sneer at the Reformers: 'Plus tard, et à l'époque de la Réforme, ses manuscrits furent brûlés dans l'incendie d'un couvent de son ordre, par des hommes qui prétendaient rallumer le flambeau de la raison éteint par les moines du moyen âge.' Without excusing the violence of the Reformers, we may at least absolve them from having wittingly destroyed works which the monks had done their utmost to prevent being written, and which their successors took care not to publish.

Yet his spirit was victorious over all obstacles. In eighteen months he had composed and written out for the pope the *Opus Majus*, *Opus Minus*, and the *Opus Tertium*. 'As an instance of immense labour and application almost superhuman,' says Mr. Brewer, 'these three answers to the demand of the pope must be reckoned among the most remarkable curiosities of literature, independently of their intrinsic merits.'* And while this poor student was thus miserably contending against external obstacles, his rivals Aquinas and Albertus Magnus were courted and aided by all temporal and clerical dignitaries. It was about this very time that 'Albert le Grand donnait à l'Empereur cette fastueuse hospitalité qui l'a rendu célèbre dans l'imagination populaire.' †

The fate of the works written under such disadvantages has been pitiable. Too much in advance of their age to be appreciated, they have only in quite modern times been rescued from the neglect and destruction too inevitably attending manuscripts. The *Opus Majus* was published by Jebb in 1733; and the *Opus Minus* and *Opus Tertium* first appeared no later than 1859. According to M. Charles, not a single doctor of the thirteenth and fourteenth centuries mentions Bacon either for blame or praise. Such wide-sweeping statements must be received with hesitation; but we may infer at least that Bacon's name is so rarely cited as to warrant the biographer's statement that his influence was inappreciable. 'Ses idées, ensevelies dans ses manuscrits, devaient y rester près de trois cents ans jusqu'à ce qu'un autre

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* BREWER: *Op. cit.* Preface, xlv.

† CHARLES: *Op. cit.* p. 31.

Bacon vint les reprendre pour son compte, y ajouter encore, et, mieux servi par les circonstances, les faire passer définitivement dans la science.'

On my first reading of the *Opus Majus* I was startled and delighted by what seemed the remarkable insight with which Bacon had anticipated several of the leading conceptions of positive philosophy. A more intimate familiarity toned down that surprise, and moderated that admiration, showing me that I had yielded to the common temptation of reading *into* ancient texts the views of modern thinkers. But even after the rectification of this erroneous impression, after an examination of Bacon's scientific ideas and pretended discoveries, which reduced their claims to a very modest rank (as I shall fully explain in the History of Science), there still remained the admiration for a vigorous thinker, one of the most remarkable of the neglected heroes of Humanity. Considered with reference to his contemporaries, he is a giant; and the comparison which spontaneously presents itself with his illustrious namesake, Francis Bacon, by no means diminishes his eminence.

It is indeed a point of singular interest that, in spite of there not being even the smallest probability of Francis Bacon having read a single page of Roger Bacon's work[*] (either in the originals, because they were unprinted, or at second hand, because they were never cited), a very curious list of parallel passages might be given, over and above the resemblances in doctrine. Had there been on external grounds the shadow of a probability, there would have been on internal grounds the strongest evidence of Francis Bacon's plagiarism; as it is, we are forced to admit a simple coincidence; unless a more comprehensive acquaintance with the literature of the Middle Ages should prove the resemblances to be traceable to a common source. Some of these, indeed, follow naturally from the antagonism against Aristotle and the Scholastic Method, which was the leading purpose of both. Having seen the vanity of the Syllogism they could only seek refuge in Experience. Having seen the wearisome inutility of Scholasticism, they could only insist with greater emphasis on the 'fruits,' and make Utility their aim. Having seen that men had all gone wrong, because all pursued a wrong Method, the suggestion of certain Idols of the mind was near at hand, and the nature of these Idols could not be very differently interpreted. Finally, having a supreme confidence in their own Method, it was natural that both should fall into the strange error of supposing that their Method would, so to speak, equalize men's minds, and render Science easily accessible to all.* It is less on such resemblances as these, though they arrest the reader, that a charge of plagiarism could be based, than on resemblances in expression (such as the *prerogatives* of Experiment) and in unimportant passages. I had drawn up a list of these, but cannot now find it; any diligent reader will notice several in the course of his study. Mr. Brewer alludes to them in his preface.†

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[*] The tract *De Mirabil. Potest. Artis et Naturæ*, a translation of which appeared in 1618, FRANCIS BACON may have seen. At any rate he quotes one or two stories from it, with an expression of disbelief, in his *Hist. Vitæ et Mortis*; and elsewhere, in the *Temporis Partus Masculus*, he speaks slightingly of his great namesake.

Four great stumbling blocks to truth (*veritatis offendicula*) impede the inquirer's progress, according to Bacon, and these are: 1. The influence of fragile and unworthy authority, *fragilis et indignæ auctoritatis exemplum*. 2. Custom, *consuetudinis diuturnitas*. 3. The imperfection of undisciplined senses, *vulgi sensus imperiti.* 4. The concealment of our ignorance by ostentation of our seeming wisdom, *propriæ ignorantiæ occultatio cum ostentatione sapientiæ apparentis.*

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* Francis Bacon's belief in his Method was extravagant: but Roger surpassed him, declaring not only that he could teach a willing pupil in three or six months all that he had taken forty years to learn, but that *three days* would suffice for Hebrew or Greek. *Opus Tertium*, c. xx. p. 65. While I fully concur with Mr. Spedding in recognising but a faint resemblance between the 'offendicula' of Roger and the 'idols' of Francis, I altogether dissent from the judgment of Mr. Ellis that 'the general resemblance between the spirit in which the two Bacons speak of science and its improvement is slight.' (*Bacon's Works*, I. 90.) It is precisely here that the resemblance seems to me to be striking.

† I do not reckon such resemblances as the famous epigram of Francis Bacon: 'Antiquitas seculi juventus mundi,' the idea of which is clearly expressed by Roger: 'quanto juniores tanto perspicaciores, quia juniores posteriores successione temporum ingrediuntur labores priorum.' *Opus Majus*, c. vi. p. 7, Venet. 1750. It would be impossible to assign the parentage of the thought; the felicity of the epigrammatic brevity is due to Francis Bacon.

It is on the evil influence of Authority that he is most copious and effective: *nam auctoritas solum allicit, consuetudo ligat, opinio vulgi obstinatos parit et confirmat.* He shows how fallible is the authority even of the wisest philosophers, and the most illustrious fathers, 'who were wise indeed, but not wise in their opposition to truth;' and he declares it to be a feeble argument which rests only on tradition, or the wisdom of our ancestors; rather we should infer that the older and commoner a belief, the greater the chance of its being a mere prejudice. Popular opinion excites his scorn. It was the mob that abandoned Jesus after following him for two years, and shouted 'Crucify him!' Philosophy has always been persecuted. Aristotle was calumniated, Avicenna persecuted, Averroes decried: 'whoever attempted to reform philosophy has been thwarted in every way; nevertheless truth has triumphed, and will triumph till the coming of Antichrist.'*

But let us not be precipitate, and conclude that Bacon held the views about Authority which are held by modern insurgents. Remember that it is a friar of the thirteenth century who is denouncing the evil influence of intellectual servility, and you will understand how he could in all sincerity add 'I do not allude to that truth and solid authority which by God's choice has been placed in the hands of the Church, or which the saintly philosophers and infallible prophets have acquired by their own merit. Elsewhere he places the remedy for the evils first in the study of that only perfect wisdom which is found in the Scriptures, and secondly in the study of Mathematics, and the use of Experiment. This combination of Scripture and Mathematics, so incomprehensible to us, had nothing startling to a man of that age. The infallibility of the Church was not to be shaken off in a day. The idea of

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* *Opus Majus*, p. 10. Comp. *Opus Tertium*, c. ix. p. 28. 'Certo multi fuerunt sancti et boni inter Judæos quando crucifixus est Dominus, et tamen omnes dimiserunt Eum.'

Scripture not containing all wisdom is an idea which has very slowly made its way. Moreover in the state of ignorance, which was the state of the wisest in the thirteenth century, we cannot doubt Bacon's sincerity when he exclaims: 'What man knows is little and worthless in respect of that which he believes without knowing; and still less in respect of that which he does not know. Mad is he who thinks much of his wisdom; maddest he who exhibits it as something marvellous.'*

It is to be noted that Bacon always insists on the harmony of revelation and reason, and stigmatizes the distinction which was then daily growing in credit, of truth according to Scripture and truth according to Philosophy. They are vile heretics who make this distinction: 'mentiuntur tanquam vilissimi heretici;' that which is false in philosophy cannot be true elsewhere. 'Nam quicquid est contrarium sapientiæ Dei vel alienum est erroneum et inane, nec potest humano generi valere.' Therefore all wisdom is to be found in Scripture, and drawn from thence by Philosophy and the Canon Law.† Nevertheless, while Bacon thus vindicates the authority of Scripture, he is firm in asserting the integrity of Philosophy, which he regards as revealed by God, and as needed for the perfect fulfilment of Scripture. Indeed we may say that although unhesitatingly accepting the dogmas of Christianity, he everywhere accepts them because they are true, and not because they claim the authority of the Fathers: against that authority he is always ready to oppose the verdicts of reason.

Dr. Whewell declares the existence of Roger Bacon's work to be a problem which has never yet been solved;‡ so greatly was it in advance of the age. I think that had the historian been somewhat better acquainted with the writings then current, especially with the Arabian writings from which Bacon drew so largely, he would have seen a ready solution of this problem. I am myself but very superficially acquainted with these writings, yet I have discovered evidence enough to make the position of Roger Bacon quite explicable without in the least denying him extraordinary merit. Some of the most striking thoughts of Bacon I have found in Avicenna and Averroes, and in passages cited by Bacon himself. Nevertheless it is a point of great interest to see how this friar in the thirteenth century had assumed the positive attitude, and several of the positive principles. The luminous distinction between Abstract and Concrete Sciences had not altogether escaped him. The important principle that each order of conceptions should be independent—'in nulla facultate extranea debet dominari'—was seized by him at a time when Albertus Magnus protested against the introduction of Mathematics into Physics; and when the ignorance of the Fathers had discredited the study, Roger Bacon made it the basis of all science—*alphabetum philosophiæ*: a conception, as Dr. Whewell remarks, in which he is superior to Francis Bacon. At a time when the Syllogistic Method was supreme, he could not only laugh at it, and disclose its incompetence, he was ready to replace it with the Scientific Method and its two handmaidens Mathematics and Experiment. 'In every science,' he said, 'we must follow the best method, and that is to study each part in its due order, placing that first which is properly at the commencement, the easy before the difficult, the general before the particular, the simple before the complex. And the exposition must be demonstration. This is impossible without experiment. We have three means of knowledge: Authority, Reasoning, and Experiment. Authority has no value unless its reason be shown; it does not teach, it only calls for assent. In Reasoning we commonly distinguish a sophism from a demonstration by verifying the conclusion through experiment.' He is constantly insisting on the necessity of Verification, and on the futility of argument.*

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* 'Pauca enim sunt et vilia respectu eorum quæ non intelligit sed credit, et longe pauciora respectu eorum quæ ignorat. Et quoniam respectu eorum quæ scit homo restant infinita quæ ignorat: insanus est qui de sapientia se extollit, et maxime insanit qui ostentat et tanquam portentum suam scientiam nititur divulgare.' *Opus Majus*, p. 11.

† *Opus Tertium*, c. xxiii.–iv.

‡ Whewell: *Hist. of the Inductive Sciences*, 3rd ed. I. 366.

* See especially *Opus Majus*, p. 336-7, over and above the well-known passages; and *Opus Tertium*, c. xiii.

Experimental Science is the mistress of the speculative sciences, and has three great Prerogatives. First, she tests and verifies the conclusions of other sciences. Secondly, she discovers in the notions which other sciences deal with, magnificent results to which these sciences are incompetent. Thirdly, she investigates the secrets of nature by her own powers.' His clear insight is displayed in the recognition of an essential connection of all the sciences. Comte himself might have written this passage: 'Omnes scientiæ sunt connexæ, et mutuis se fovent auxiliis, sicut partes ejusdem totius, quarum quælibet opus suum peragit, non solum propter se, sed pro aliis.' *

We may echo Mr. Brewer's remark: 'If the world loves to contemplate the great Lord Chancellor of James I. retiring from the court or the parliament to his museum at Gray's Inn or Gorhambury, laying aside his chancellor's robe to watch the furnace or count the drops from the alembic, the example of the solitary friar with more scanty means and fewer associates justifying the value of experiment, in a darker and less favourable age, is not less interesting. So far as the prize is to be given to mere invention, Roger Bacon has superior claims to Lord Bacon.' †

He had a distinct idea of a science which should be a *prima philosophia*, constituted of all the fixed and universal Laws of Nature. In the study of this he repudiates as idle the search after Forms and Species, and seeks only the uniform agencies which are reducible to law. He ridicules the method of his day on which physical questions were solved by reason, *rationaliter*. If you ask one of these doctors what is the cause of Combustion, he can only answer you that the cause is occult.

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* *Opus Tertium*, c. iv. p. 18.

† Mr. Brewer is less happy in his criticism of Roger Bacon when he says: 'though in his practice a keen and sagacious experimentalist, in his exposition of science he adopted the deductive in opposition to the inductive method.' In the first place Roger Bacon never expounded a science, but only his general views of science; and in the next place, the inductive method may be the best method of research, but the deductive is the method of exposition.

A closer examination of Bacon's writings would demand a long chapter. Such a chapter would display the incompleteness of his conceptions, the vagueness of his Method, and the strange credulity which in those days even his independent mind could not escape.

## § IV. OCCAM.[1]

Roger Bacon left no school. He was too much in advance of his age; or rather he was too much in advance of the philosophical authorities to gain from them a proper recognition. The Scholasticism he opposed was still triumphant. The theologians opposed him because he inculcated Observation and discredited Authority. The philosophers were willing enough that he should attack Authority, but were not willing to listen to the same attacks upon their syllogistic method. They were not better disposed towards Observation and Experiment than the theologians were. To this day the inductive Method is distasteful to metaphysicians. Duns Scotus rose into rivalry with Aquinas, and the adverse sects of Thomists and Scotists filled Europe with their noisy disputes. Observation and Experiment instead of being practised were condemned as dangerous. In 1243 the Dominicans interdicted the study of medicine and all physical inquiry. In 1287, Chemistry was found to be dangerous.

The gradual development of Philosophy made it clear that Aristotle could not be reconciled with several fundamental tenets of the Church. To save both, a distinction between the two kinds of truth was invented; and men taught the truth according to the Church and the truth according to Philosophy, as two parallel and independent lines. This could not last. Scholasticism was hastening to its end, and it received its death blow from our brilliant and rebellious countryman William of Occam, who wrote vigorously against the temporal power of the Pope, and triumphantly against some metaphysical errors of the schools. This was in the early part of the fourteenth century.

Occam, according to M. Hauréau, is a writer of transparent candour, who says what he means without equivoque. He is a freethinker, separating questions of reason from questions of faith, and not permitting the latter to embarrass the former. If the question arises as to the Divine intelligence being the first efficient cause of all that exists, he replies that as a philosopher he knows nothing about it, experience not instructing us in what way the cause of causes acts, and reason having neither the power nor the right to penetrate the divine sanctuary.

With Occam the doctrine of Realism came to an end. His advocacy of Nominalism was irresistible; and indeed it may all be said to be implied in his famous maxim about not multiplying entities. The multiplication of entities had gone on with immense fecundity in the schools. Wherever a phenomenon could be discerned an entity had to be invented to account for it—*oportet ponere aliquod agens.* But Occam showed the weakness of this recourse; and to use the language of M. Hauréau, 'Guillaume d'Ockham n'est pas seulement le chef d'une grande école; son influence sur les écoles adverses a été considérable: comme il rappelait dans les voies de la réalité les esprits fatigués de leurs vaines et laborieuses enquétes dans les sphères du possible, son appel devait étre, a été favorablement accueilli. Au treizième siècle, l'étude de la philosophie était une passion ardente, à laquelle on était prét à faire beaucoup de sacrifices; mais toutes les passions, méme les plus généreuses, recherchent leur fin avec une ardeur déréglée: dès le commencement du quatorzième, on voit plus de calme dans les intelligences, et, comme elles reconnaissent la nécessité d'une méthode, elles sont disposées d'elles-mémes à suivre le nouveau guide qui se présentera pour les conduire. Ce guide ce fut Guillaume d'Ockham.'

## § V. THE REVIVAL OF LEARNING.

The gathering forces of the new era may be most readily indicated by an enumeration of such names as Giotto, Dante, Petrarch, Boccaccio, Chaucer, Froissart, Tauler, Wiclif—men whose greatest labours fall within this fourteenth century; and towards its close we must add the gradual influx of Greek scholars—Barlaam, Chrysaloras, Gaza, Bessarion, and George of Trebizond, whose learning and enthusiasm gave a new direction to philosophical speculation, and opened the treasures of classic wisdom.

With the revival of learning, after the fall of Constantinople, came fresh streams of Grecian influence. The works of Plato became generally known; under Marsilio Ficino—to whom we owe the Latin translation of Plato*—a school of Platonists was formed, which continued to divide, with the school of Aristotle, the supremacy of Europe, under new forms, as before it had divided it under the form of Realism. The effect of this influx of Grecian influence, at a period when Philosophy was emancipating itself from the absolute authority of the Church, was to transfer the allegiance from the Church to Antiquity. To have suddenly cast off all authority would have been too violent a change; and it may on the whole be regarded as fortunate for human development that Philosophy did so blindly accept the new authority—one altogether *human*, yet without deep roots in the life of the nation, without any external constituted power, consequently very liable to disunion and disruption, and certain to give way before the necessary insurgence of Reason insisting on freedom.

There is something profoundly rational in the principle of Authority, when not exercised despotically, and something essentially anarchical in the principle of Liberty, when not restrained within due limits. Both Authority and Liberty are necessary principles, which only in misuse become paralyzing or destructive. It may be made perfectly clear to the rational mind that as Comte says there can be no such thing as 'liberty of private judgment' in Mathematics, Astronomy, Physics, Chemistry, or any other science the truths of which have been established; the person ignorant of these sciences does, and must, take upon trust the statements made by those who are authorities; he cannot indulge his 'private judgment' on the matter, without forfeiting the respect of those who hear him. Does this mean that all men are bound blindly to accept what astronomers and chemists assert? No; to require such submission of the judgment, is to pass beyond the principle of Authority, and assume that of Despotism. The principle of Liberty assures entire freedom to intellectual activity, warrants the control of Authority, and incites men to control it by submitting its positions to those elementary tests by which it was itself originally constituted. If I have made a series of experiments which have led to the disclosure of an important truth, your liberty of private judgment is mere anarchy if it assert itself in denying the truth simply out of your own pre-conceptions; but it is healthy freedom if it assert itself in denying the truth after having submitted my authority to its original tests (those experiments, namely, which gave it authority), and after detecting some error in my experimentation, or some inaccuracy in my induction. The authoritative statement of Sir Charles Bell, repeated by every other anatomist, respecting the separate functions of the anterior and posterior columns of the spinal cord, was one which permitted no liberty of private judgment, but did permit liberty of private verification; and when M. Brown-Séquard repeated the original experiments and proved the former conclusions to be erroneous,* his authoritative statement replaced that of previous anatomists, and will continue to replace it, until it has undergone a similar defeat through the process of verification.

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* In many respects our best guide to Plato's meaning where he is most obscure. It is printed in Bekker's edition.

If this is a correct view, it will enable us to understand the long continuance of Aristotle's authority, which coerced the minds of men as the authority of one confessedly a master in his art, and one whose positions would not easily be brought to the test of verification. Hence, as Bayle says, the method employed was first to prove every thesis by authority, and next by arguments; the proofs by authority were passages from Aristotle; the arguments went to show that these passages, rightly interpreted, meant what the thesis meant.

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* See *Mémoires de la Société de Biologie.* 1855.

Other causes contributed to foster this reverence for Authority; only one cause could effectually destroy it, and that was the rise of positive Science, which, by forcing men to verify every step they took, led them into direct antagonism with the ancients, and made them choose between the new truth and the old dogma. As Campanella—one of the reforming thinkers—acutely saw, 'the reforms already made in philosophy must make us expect its complete change; and whoever denies that the Christian mind will surpass the Pagan mind, must also deny the existence of the New World, the planets and the stars, the seas, the animals, the colonies, the modern sects and the new cosmography.'* It does not come within our purpose here to trace the rise and development of Science; we therefore pass at once to the philosophical insurgents against the authority of Aristotle and the Church well typefied in Giordano Bruno.

## § VI. Giordano Bruno.

On the 17th of February, 1600, a vast concourse of people was assembled in the largest open space in Rome, gathered together by the irresistible sympathy which men always feel with whatever is terrible and tragic in human existence. In the centre stood a huge pile of faggots; from out its logs and branches rose a stake. Crowding round the pile were eager and expectant faces, men of various ages and of various characters, but all for one moment united in a common feeling of malignant triumph. Religion was about to be avenged; a heretic was coming to expiate on that spot the crime of open defiance to the dogmas proclaimed by the Church—the crime of teaching that the earth moved, and that there was an infinity of worlds. The stake is erected for the 'maintenance and defence of the Holy Church, and the rights and liberties of the same.'*

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* Quoted by M. Renouvier, *Manuel de Philos. Moderne*, p. 7.

Whom does the crowd await? Giordano Bruno—the poet, philosopher, and heretic—the teacher of Galileo's heresy—the friend of Sir Philip Sidney, and open antagonist of Aristotle. A hush comes over the crowd. The procession solemnly advances, the soldiers peremptorily clearing the way for it. His face is placid though pale. They offer him the crucifix; he turns aside his head—he *refuses to kiss it!* 'The heretic!' They show him the image of Him who died upon the cross for the sake of the living truth—he refuses the symbol! A yell bursts from the multitude.

They chain him to the stake. He remains silent. Will he not pray for mercy? Will he not recant? Now the last hour is arrived—will he die in his obstinacy, when a little hypocrisy would save him from so much agony? It is even so: he is stubborn, unalterable. They light the faggots; the branches crackle; the flame ascends; the victim writhes—and now we see no more. The smoke envelopes him; but not a prayer, not a plaint, not a single cry escapes him.—In a little while the wind has scattered the ashes of Giordano Bruno.

The martyrdom of Bruno has preserved his name from falling into the same neglect as his writings. Most well-read men remember his name as that of one who, whatever his errors might have been, perished a victim of intolerance. But the extreme rarity of his works, aided by some other causes into which it is needless here to enter, has, until lately, kept even the most curious from forming any acquaintance with them. The rarity of the writings made them objects of bibliopolic luxury: they were the black swans of literature. Three hundred florins were paid for the *Spaccio* in Holland, and thirty pounds in England. Jacobi's mystical friend, Hamann, searched Italy and Germany in vain for the dialogues *De la Causa* and *De l' Infinito*. But in 1830, Herr Wagner, after immense toil, brought out his valuable edition of the Italian works, and since then students have been able to form some idea of the Neapolitan thinker.*

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* Words quoted by Prof. De Morgan from a writ of James the First.

Giordano Bruno was born at Nola, in La Terra di Lavoro, a few miles from Naples, and midway between Vesuvius and the Mediterranean.† The date of his birth is fixed as 1550—that is to say, ten years after the death of Copernicus,—whose system he was to espouse with such ardour,—and ten years before the birth of our own illustrious Bacon. Tasso well says:

> 'La terra
> Simili a sè gli abitator' produce;'

and Bruno was a true Neapolitan child—as ardent as its volcanic soil, burning atmosphere, and dark thick wine (*mangiaguerra*)—as capricious as its varied climate. There was a restless energy which fitted him to become the preacher of a new crusade—urging him to throw a haughty defiance in the face of every authority in every country,—an energy which closed his wild adventurous career at the stake. He was also distinguished by a rich fancy, a varied humour, and a chivalrous gallantry, which constantly remind us that the athlete is an Italian, and an Italian of the sixteenth century. Stern as was the struggle, he never allowed the grace of his nature to be vanquished by its vehemence. He went forth as a preacher; but it was as a preacher young, handsome, gay, and worldly—as a poet, not as a fanatic.

The first thing we hear of him is the adoption of the Dominican's frock. In spite of his ardent temperament, full of vigorous life he shuts himself up in a cloister,—allured, probably, by the very contrast which such a life offered to his own energetic character. Bruno in a cloister has but two courses open to him: either all that affluent energy will rush into some stern fanaticism, and, as in Loyola, find aliment in perpetual self-combat, and in bending the wills of others to his purposes; or else his restless spirit of inquiry, stimulated by avidity for glory, will startle and irritate his superiors. It was not long ere the course was decided. He began to doubt the mystery of transubstantiation. Nay more: he not only threw doubt upon the dogmas of the Church, he had also the audacity to attack the pillar of all faith, the great authority of the age—Aristotle himself. The natural consequences ensued—he was feared and persecuted. Unable to withstand his opponents, he fled. Casting aside the monkish robe, which clothed him in what he thought a falsehood, he fled from Italy at the very time when Montaigne, having finished the first part of his immortal Essays, entered it, to pay a visit to the unhappy Tasso, then raving in an hospital.

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* *Opere di Giordano Bruno, Nolano, ora per la prima volta raccolte e pubblicate da Adolfo Wagner* 2 vols., Leipzig, 1830.

† For the biographic details I am mainly indebted to the valuable work of M. Christian Bartholmess, entitled *Jordano Bruno*, 2 vols., Paris, 1848.

Bruno was now an exile, but he was free; and the delight he felt at his release may be read in several passages of his writings, especially in the sonnet prefixed to *L' Infinito*:

'Uscito di prigione angusta e nera,
Ove tanti anni error stretto m' avvinse:
Quà lascio la catena, che mi cinse,
La man di mia nemica invida e fera,' etc.

He was thirty years of age when he began his adventurous course through Europe—to fight single-handed against much of the falsehood, folly, and corruption of his epoch. Like his great prototype, Xenophanes, who wandered over Greece a rhapsodist of philosophy striving to awaken mankind to a recognition of the Deity whom they degraded by their dogmas, or like his own unhappy rivals, Campanella and Vanini, Bruno became the knight-errant of truth, ready to combat all comers in its cause. His life was a battle without a victory. Persecuted in one country, he fled to another—everywhere sowing the seeds of revolt, everywhere shaking the dynasty of received opinion. It was a strange time,—to every earnest man, a sad and almost hopeless time. The Church was in a pitiable condition—decaying from within, and attacked from without. In general the lower clergy were degraded by ignorance, indolence, and sensuality; the prelates, if more enlightened, were enlightened only as epicures and pedants, swearing by the Gods of Greece and

Rome, and laboriously imitating the sonorous roll of Ciceronian periods. The Reformation had startled the world, especially the ecclesiastical world. The Inquisition was vigilant and cruel; but among its very members there were sceptics. Scepticism, with a polish of hypocrisy, was the general disease. It penetrated almost everywhere—from the cloister to the cardinal's palace. Scepticism, however, is only a transitory state. In all ages, we see it stimulating new reforms. Reformers were not wanting in the sixteenth century. Of the Lutheran movement it is needless here to speak. The sixteenth century marks its place in history as the century of revolutions: it not only broke the chain which bound Europe to Rome, it also broke the chain which bound philosophy to Scholasticism and Aristotle. It set human reason free; it proclaimed the liberty of thought and action. In the vanguard of its army, we see Telesio, Campanella, and Bruno, men who must always excite our admiration and our gratitude for their cause and for their courage. They fell fighting for freedom of thought and utterance—the victims of a fanaticism the more odious because it was not the rigour of belief, but of *pretended* belief. They fought in those early days of the great struggle between science and prejudice, when Galileo was a heretic, and when the implacable severity of dogmatism baptized in blood every new thought born into the world.

One spirit is common to all these reformers, however various their doctrines: the spirit of unhesitating opposition to the dominant authority. In the fifteenth century men were occupied with the newly-awakened treasures of ancient learning: it was a century of erudition; the past was worshipped at the expense of the present. In art, in philosophy, and in religion, they sought to restore the splendours of an earlier time. Brunelleschi, Michael Angelo, Raphael, disdaining the types of Gothic art, strove to recall once more the classic type. Marsilio Ficino, Mirandola, Telesio, and Bruno, discarding the subtleties and disputes of Scholasticism, endeavoured to reproduce Pythagoras, Plato, and Plotinus.

In religion, Luther and Calvin, avowedly rising against Papal corruptions, laboured to restore the Church to its primitive simplicity. Thus the new era seemed retrograde. It is often so. The recurrence to an earlier time is the preparation for a future. We cannot leap far, leaping from the spot where we stand; we must step backwards a few paces to acquire momentum.

Giordano Bruno ceaselessly attacked Aristotle. In so doing he knew that he grappled with the Goliah of the Church. Aristotle was a synonym for reason. An anagram was made of his name, 'Aristoteles: *iste sol erat*.' His Logic and Physics, together with the Ptolemaic system of astronomy, were then considered as inseparable portions of the Christian creed. In 1624—a quarter of a century after Bruno's martyrdom—the Parliament of Paris issued a decree banishing all who publicly maintained theses against Aristotle; and in 1629, at the urgent remonstrance of the Sorbonne, decreed that to contradict the principles of Aristotle was to contradict the Church! There is an anecdote recorded somewhere of a student, who, having detected spots in the sun, communicated his discovery to a worthy priest: 'My son,' replied the priest, 'I have read Aristotle many times, and I assure you there is nothing of the kind mentioned by him. Go rest in peace; and be certain that the spots which you have seen are in your eyes, and not in the sun.' When Ramus solicited the permission of Beza to teach in Geneva, he was told, 'the Genevese have decreed once for all, that neither in logic, nor in any other branch of knowledge, will they depart from the opinions of Aristotle—*ne tantillum quidem ab Aristotelis sententiâ deflectere*.' It is well known that the Stagirite narrowly escaped being canonized as a Saint. Are you for or against Aristotle? was the question of philosophy; and the piquant aspect of this ἀριστοτελεομαχία is the fact that both parties were often ignorant of the real opinions of the Stagirite; attributing to him indeed doctrines the very reverse of those which a more ample knowledge of his writings has shown him to have taught.

Bruno, as we said, took his stand opposite to the Aristotelians. Pythagoras, Plato, Plotinus, and Lucretius were his teachers. Something of temperament may have originated this; for Bruno undoubtedly belongs to that class of thinkers in whom Logic is but the handmaid of Imagination and Fancy. To him the Aristotle of that age was antipathetic. The Aristotelians taught that the world was finite, and the heavens incorruptible. Bruno declared the world to be infinite, and subject to an eternal and universal revolution. The Aristotelians proclaimed the immobility of the earth: Bruno proclaimed its rotation. Such open dissidence could of course only enrage the party in power. It would have been sufficiently audacious to promulgate such absurdities—*horrenda prorsus absurdissima*—as the rotation of the earth; but to defy Aristotle and ridicule his logic, could only proceed from the audacity of impiety. So Bruno had to fly.

To Geneva he first directed his steps. But there the power which had proved stronger than the partisans of Servetus, was still dominant. He made his escape to Toulouse; there he raised a storm among the Aristotelians, such as compelled him to fly to Paris, the streets of which were still slippery with the blood of the Eve of St. Bartholomew. It would not have been surprising had he been butchered without mercy; but, by some good fortune, he obtained the favour of Henry III., who not only permitted him to lecture at the Sorbonne, but offered to admit him as a salaried professor, if he would but attend Mass. Is it not strange that at a time when attendance at Mass was so serious a matter,—when the echoes of that lugubrious cry, *la Messe ou la mort!* which had resounded through those narrow murky streets, must have been still ringing in men's ears,—Bruno, in spite of his refusal, not only continued to lecture, but became exceedingly popular? Since Abelard had captivated the students of Paris with his facile eloquence and startling novelties, no teacher had been so enthusiastically received as Bruno. Young, handsome, eloquent, and facetious, he charmed by his manner no less than by his matter. Adopting by turns every form of address—rising into the aerial altitudes of imagination, or descending into the kennel of obscenity and buffoonery—now grave, prophet-like, and impassioned—now fierce and controversial—now fanciful and humorous—he threw aside all the monotony of professional gravity, to speak to them as a man. He did not on this occasion venture openly to combat the prejudices and doctrines of the age; that was reserved for his second visit, after he had learned in England to speak as became a free and earnest man.

On the misty banks of our noble Thames, he was rudely initiated into the brutality of the English character; but he was amply compensated by his reception at the Court of Elizabeth, where a friendly welcome awaited all foreigners—especially Italians. Nor was his southern heart cold to the exquisite beauty and incomparable grace of our women. England was worth visiting; and he had reason to refer with pride to 'questo paese Britannico a cui doviamo la fedeltà ed amore ospitale.' It was in England he published the greater part of his Italian works. It was here perhaps that the serenest part of his life was spent. Patronised by the Queen ('l' unica Diana qual è tra voi, qual che tra gli astri il sole,' as he calls her), he had the glory and the happiness to call Sir Philip Sidney friend.

In the high communion of noble minds, in the interchange of great thoughts and glorious aspirations, another than Bruno might have been content to leave the world and all its errors in peace; but he had that within him which would not suffer him to be at rest. He could not let the world wag on its way, content to smile at its errors. He was a soldier, and had his battles to fight. In the society of Sir Philip Sidney, Sir Fulke Greville, Dyer, Harvey, and most probably of Antonio Perez and Shakspeare's Florio, Bruno *might* have discussed with calmness every question of philosophy, had he been of an epicurean turn—had he not been Bruno. As it was, lured by his passion for publicity—by his vanity no less than by his love of truth—he rushed into the arena.

It was not very long after his arrival in England (1583) that Leicester, then Chancellor of Oxford, gave that splendid *fête* in honour of the Count Palatine Albert de Lasco, of which the annals of Oxford and the works of Bruno have preserved some details. In those days a foreigner was 'lionized' in a more grandiose style than modern Amphitryons attempt. It was not deemed sufficient to ask the illustrious stranger to breakfast; there were no dinners given in public, or at the club. The age of tournaments had passed away; but there were still public discussions, which were a sort of passage-of-arms between the knights of intellect. And such a tourney had Leicester prepared in honour of the Pole. Oxford called upon her doughty men to brighten up their arms,—that is to say, to shake the dust from their volumes of Aristotle. All comers were challenged. Bruno stepped into the arena. Oxford chose her best men to combat for Aristotle and Ptolemy. On that cause her existence seemed to depend. Her statutes declared that the Bachelors and Masters of Arts who did not faithfully follow Aristotle were liable to a fine of five shillings for every point of divergence, or for every fault committed against the *Organon*. Bruno wittily called Oxford the *widow* of sound learning - 'la vedova di buone lettere.'

The details of this wit combat are unknown to us. Bruno declares that fifteen times did he stop the mouth of his pitiable adversary, who could only reply by abuse.* But there is considerable *forfanterie* about the Neapolitan, and such statements must be received with caution. That he created a 'sensation' we have no doubt; his doctrines were sufficiently startling. We also find him, on the strength of that success, soliciting permission of the Oxford Senate to profess openly. With his usual arrogance he styles himself, in this address, as a 'doctor of a more perfect theology, and professor of a purer wisdom,' than was there taught. Strange as it may appear, permission was granted; probably because he had the patronage of Elizabeth. He lectured on cosmology, also on the immortality of the soul: a doctrine which he maintained, not upon the principles of Aristotle, but upon those of the Neo-Platonists, who regarded this life as a brief struggle, a sort of agony of death, through which the soul must pass ere it attains to the splendour of existence in the eternal and universal life: the conviction of our future existence is given in the deep unquenchable desire which is within us to unite ourselves with God, and to quit this miserable sphere for the glorious regions of eternity. No doubt he preached this doctrine with stirring eloquence; but it must have sounded very heterodox in the ears of that wise conclave—styled by Bruno 'a constellation of pedants, whose ignorance, presumption, and rustic rudeness would have exhausted the patience of Job;' and they soon put an end to his lectures.

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* 'Andate in Oxonia e fatevi raccontar le cose intravenute al Nolano quando publicamente disputò con que' dottori in teologia in presenza del Principe Alasco Polacco, et altri de la nobilità inglese! Fatevi dire come si sapea rispondere a gli argomenti, come restò per quindici sillogismi quindici volte qual pulcino entro la stoppa quel povero dottor, che come il corifeo de l' accademia ne puosero avanti in questa grave occasione! Fatevi dire con quanta incivilità e discortesia procedea quel porco, e con quanta pazienza et umanità quell' altro, che in fatto mostrava essere Napoletano, nato et allevato sotto più benigno cielo!'—*La Cena de le Ceneri*: Bruno: *Opp. Ital.* ii. 179.

We have already indicated the protection which Elizabeth accorded him, and which he repaid by adulation, extravagant enough, but which was then the current style in speaking of royalty; and it should not be forgotten that this praise of a Protestant Queen was not among the least of his crimes in the eyes of his accusers. Still, even Elizabeth could not protect a heretic; and Bruno's audacious eloquence roused such opposition that he was forced to quit England. He returned to Paris, once more to court the favour of the *Quartier Latin*. He obtained permission to open a public disputation on the Physics of Aristotle. For three successive days did this dispute continue, in which the great questions of nature, the universe, and the rotation of the earth were discussed. Bruno had thrown aside the veil, and presented his opinions naked to the gaze. His impetuous onslaught upon established opinions produced the natural result; he was forced again to fly.

We next find him in Germany, carrying the spirit of innovation into its august universities. In July, 1586, he matriculated as *theologiæ doctor Romanensis* in the university of Marburg, in Hesse; but permission to teach philosophy was refused him *ob arduas causas*. Whereupon he insulted the Rector in his own house, created a disturbance, and insisted that his name should be struck off from the list of members of the university. He set off for Würtemberg. His reception in this centre of Lutheranism was so gratifying, that he styled Würtemberg the Athens of Germany. 'Your justice,' he writes to the Senate, 'has refused to listen to the insinuations circulated against my character and my opinions. You have with admirable impartiality permitted me to attack with vehemence that philosophy of Aristotle which you prize so highly.' For two years did he teach there with noisy popularity, yet on the whole with tolerable prudence in not speaking against the peculiar views of Lutheranism. He even undertook a defence of Satan; but whether in that spirit of pity which moved Burns, or whether in the spirit of buffoonery which delights to play with awful subjects, we have no means of ascertaining. He did not offend his audience, in whatever spirit he treated the subject.

Here, then, in Wurtemberg, with admiring audiences and free scope for discussion, one might fancy he would be at rest. Why should he leave so enviable a position? Simply because he was not a man to rest in ease and quiet. He was possessed with the spirit of a reformer, and this urged him to carry his doctrines into other cities. Characteristic of his audacity is the next step he took. From Würtemberg he went to Prague; from the centre of Lutheranism to the centre of Catholicism! In this he had reckoned too much on his own powers. He met with neither sympathy nor support in Prague. He then passed on to Helmstadt, where his fame having preceded him, the Duke of Brunswick conferred upon him the honourable charge of educating the hereditary Duke. Here again, if he had consented to remain quiet, he might have been what the world calls successful;

but he was troubled with convictions—things so impedimental to success!—and these drew down upon him a sentence of excommunication. He justified himself, indeed, and the sentence was removed: but he was not suffered to remain in Helmstadt; so he passed to Frankfort, and there in quiet, brief retirement published three of his Latin works. Here a blank occurs in his annals. When next we hear of him he is at Padua.

After an absence of ten years, the wanderer returns to Italy. In his restless course he has traversed Switzerland, France, England, and Germany; his hand against every man. and every man's hand against him. Heretic and innovator, he has irritated the clergy without securing the protection of philosophers. He has sought no protection but that of truth. That now he should choose Padua above all places, must excite astonishment. Padua, where Aristotle reigns supreme! Padua, overshadowed by Venice and the Inquisition! Was he weary of life, that he thus marched into the camp of his enemy? or did he rely on the force of his convictions and the vigour of his eloquence to triumph even in Padua? None can say. He came—he taught—he fled. Venice received him—but it was in her terrible prison. Lovers of coincidences will find a piquant illustration in the fact that at the very moment when Bruno was thrown into prison, Galileo opened his course of mathematics at Padua; and the six years which Galileo occupied that mathematical chair, were the six years Bruno spent in miserable captivity.

Bruno's arrest was no sooner effected than intimation of it was sent to the Grand Inquisitor San Severino, at Rome, who ordered that the prisoner should be sent to him, under escort, on the first opportunity. Thomas Morosini presented himself before the *Savi* of Venice, and demanded, in the name of his Eminence, that Bruno should be delivered up to him. 'That man,' said he, 'is not only a heretic, but an heresiarch. He has written works in which he highly lauds the Queen of England, and other heretical princes. He has written diverse things touching religion, which are contrary to the faith.' The *Savi*, for some reason or other, declined to give up their prisoner, saying the matter was too important for them to take a sudden resolution. Was this mercy? Was it cruelty? In effect, it was cruelty; for Bruno languished six years in the prisons of Venice, and only quitted them to perish at the stake. Six long years of captivity—worse than any death. To one so ardent, solitude itself was punishment. He wanted to be among men, to combat, to argue, to live; and he was condemned to the fearful solitudes of that prison, without books, without paper, without friends. Such was the repose which the weary wanderer found on his native soil.

His prison doors were at length opened, and he was removed to Rome, there to undergo a tedious and fruitless examination. Of what use was it to call upon him to retract his opinions? The attempt to convince him was more rational; but it failed. The tiresome debate was needlessly prolonged. Finding him insensible to their threats and to their logic, they brought him, on the 9th of February, to the palace of San Severino; and there, in the presence of the cardinals and most illustrious theologians, he was forced to kneel and receive the sentence of excommunication. That sentence passed, he was handed over to the secular authorities, with a recommendation of a 'punishment as merciful as possible, and without effusion of blood'—*ut quam clementissimè et citra sanguinis effusionem puniretur*,—the atrocious formula for burning alive.

Calm and dignified was the bearing of the victim during the whole of this scene. It impressed even his persecutors. On hearing his sentence, one phrase alone disturbed the unalterable serenity of his demeanour. Raising his head with haughty superiority, he said, 'I suspect you pronounce this sentence with more fear than I receive it.' A delay of one week was accorded to him, in the expectation that fear might force a retractation; but the week expired, and Bruno remained immovable. He perished at the stake; but he died in the martyr spirit, self-sustained and silent, welcoming death as the appointed passage to a higher life.

'Fendo i cieli e a l' infinito m' ergo.'

Bruno perished the victim of intolerance. It is impossible to read of such a punishment without strong indignation and disgust. There are, indeed, no pages in the annals of mankind which we would more willingly blot out, than those upon which fanaticism has written its bloody history. Frivolous as have often been the pretexts for shedding blood, none are more abhorrent to us than those founded upon religious differences. Surely the question of religion is awful enough in itself. Men have the deepest possible interest in ascertaining the truth of it: and if they cannot read the problem aright by the light of their own convictions, will it be made more legible by the light of an *auto-da-fé*? Tolerance is still far from being a general virtue; but what scenes of struggle, of violence, and of persecution has the world passed through, before even the present modicum of tolerance could be gained! In the sixteenth century, free thought was a crime. The wisest men were bitterly intolerant; the mildest, cruel. Campanella tells us that he was fifty times imprisoned, and seven times put to the torture, for daring to think otherwise than those in power. It was indeed the age of persecution. That which made it so bloody was the vehemence of the struggle between the old world and the new—between thought and established dogma—between science and tradition. In every part of Europe— in Rome itself—men uprose to utter their new doctrines, and to shake off the chains which enslaved human intellect. It was the first great crisis in modern history, and we read its progress by the bonfires lighted in every town. The glare of the stake reddened a sky illumined by the fair auroral light of Science.

Did Bruno deserve to die? According to the notions of that age, he certainly did; though historians have, singularly enough, puzzled themselves in the search after an adequate motive for so severe a punishment. He had praised heretical princes; he had reasoned philosophically on matters of faith—properly the subjects of theology; he had proclaimed liberty of thought, and investigation; he had disputed the infallibility of the Church in science; he had propagated such heresies as the rotation of the earth, and the infinity of worlds; he had refused to attend Mass; he had repeated many buffooneries then circulating, which threw contempt upon sacred things; finally, he had taught a system of Pantheism, which was altogether opposed to Christianity. He had done all this: and whoever knows the sixteenth century, will see that such an innovator had no chance of escape. Accordingly, the flames (as Scioppius sarcastically wrote in describing the execution to a friend) 'carried him to those worlds which he imagined.'

'As men die, so they walk among posterity,' is the felicitous remark of Monckton Milnes; and Bruno, like many other men, is better remembered for his death than for anything he did while living. The flames which consumed his body have embalmed his name. He knew it would be so—'La morte d' un secolo fa vivo in tutti gli altri.'

Considered as a system of philosophy, we cannot hesitate in saying that Bruno's has only an historical, not an intrinsic value. Its condemnation is written in the fact of its neglect. But taken historically, his works are very curious, and still more so when we read them with a biographical interest; for they not only illustrate the epoch, but exhibit the man,—exhibit his impetuosity, recklessness, vanity, imagination, buffoonery, his thoroughly Neapolitan character, and his sincere love of truth. Those who wish to see grave subjects treated with dignity, will object to the licence he allows himself, and will have no tolerance for the bad taste he so often displays. But we should rather look upon these works as the rapid productions of a restless athlete—as the improvisations of a full, ardent, but irregular mind, in an age when taste was less fastidious than it has since become. If Bruno mingled buffooneries and obscenities with grave and weighty topics, he therein only follows the general licence of that age;

and we must extend to him the same forgiveness as to Bembo, Ariosto, Tansillo, and the rest. Plato himself is not wholly exempt from the same defect.

In adopting the form of dialogue, Bruno also followed the taste of his age. It is a form eminently suited to polemical subjects; and all his works were polemical. It enabled him to ridicule by turns the pedants, philosophers, and theologians; and to enunciate certain doctrines which even his temerity would have shrunk from, had he not been able to place them in the mouth of another. He makes his dialogues far more entertaining than works of metaphysics usually are; and this he does by digressions, by ridicule, by eloquence, and a liberal introduction of sonnets. Sometimes his very vivacity becomes wearisome. The reader is stunned and bewildered by the remorseless torrent of substantives and epithets which pours from his too prolific pen. There is nobody to rival him, but Rabelais, in this flux of words.[*] His great butts are the clergy, and the philosophers. He reproaches the former with ignorance, avarice, hypocrisy, and the desire to stifle inquiry and prolong the reign of ignorance. The philosophers he reproaches with blind adherence to authority, with stupid reverence for Aristotle and Ptolemy, and with slavish imitation of antiquity. It should be observed that he does not so much decry Aristotle, as the idolatry of Aristotle.[†] Against the pedantry of that pedantic age he is always hurling his thunders. 'If,' says he, in one place, characterizing the pedant, 'he laughs, he calls himself Democritus; if he weeps, it is with Heraclitus; when he argues, he is Aristotle;

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[*] To give the reader a taste of this quality, we will cite a sentence from the dedicatory epistle to *Gli Eroici Furori*: 'Che spettacolo, o Dio buono! più vile e ignobile può presentarsi ad un occhio di terso sentimento, che un uomo cogitabundo, afflitto, tormentato, triste, maninconioso, per divenir or freddo, or caldo, or fervente, or tremante, or pallido, or rosso, or in mina di perplesso, or in atto di risoluto, un che spende il miglior intervallo di tempo destillando l' elixir del cervello con mettere scritto e sigillar in pubblici monumenti quelle continue torture, que' gravi tormenti, que' razionali discorsi, que' fatuosi pensieri, e quelli amarissimi studi, destinati sotto la tirannide d' una indegna imbecille stolta e sozza sporcaria?' Thus it continues for some fifty lines more!—*Opp. Ital.* ii. 299.

[†] Vide *Opp. Ital.* ii. 67, where this is explicitly stated.

when he combines chimeras, he is Plato; when he stutters, he is Demosthenes.' That Bruno's scorn sprang from no misology, his own varied erudition proves. But while *he* studied the ancients to extract from them such eternal truths as were buried amidst a mass of error, *they*, the pedants, only studied how to deck themselves in borrowed plumes.

Turning from manner to matter, we must assign to Bruno a place in the history of philosophy, as a successor of the Neo-Platonists, and the precursor of Spinoza, Descartes, Leibnitz, and Schelling. That Spinoza and Descartes were actually conversant with the writings of Giordano Bruno does not distinctly appear. Yet it is not to be disputed that Bruno anticipated Spinoza in his conception of the *immanence* of the Deity, in his famous *natura naturans* and *natura naturata*, and in his pantheistic theory of evolution. He also anticipated Descartes' famous criterium of truth, viz. that whatever is clear and evident to the mind, and does not admit of contradiction, must be true; and in his proclamation of Doubt as opposed to Authority, he thus insists upon Doubt as the starting-point: '*Chi vuol perfettamente giudicare deve saper spogliarsi de la consuetudine di credere, deve l'una e l'altra contradittoria esistimare equalmente possibile, e dismettere a fatto quell' affezione di cui è imbibeto da natività.*'* Leibnitz was avowedly acquainted with Bruno's works, and derived therefrom his theory of monads. Schelling makes no secret of his obligations.

There is another merit in Bruno which should not be overlooked, that, namely, of giving a strong impulse to the study of Nature. Occupied with syllogisms about entities and quiddities, the philosophy of the Middle Ages had missed the great truth that 'man is the minister and interpreter of Nature.' Philosophy taught that the interpretation could proceed only from *within*; that men were to look into their own minds to analyse, subdivide, and classify their own ideas, instead of looking forth into Nature, and patiently observing her processes.* Bruno was one of the first to call men out into the free air. With his poetical instinct he naturally looked on Nature as the great book for man to read. He deified Nature; and looked upon the Universe as the garment of God, as the incarnation of the divine activity. Let not this be misunderstood, however. If Bruno embraced the Copernican theory, and combated the general physics of his day, he is not on that account to be mistaken for a follower of scientific Method. He espoused the correct view of the earth's sphericity and rotation; but he did so on the faith of his metaphysical theories, not on rigorous induction.

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* *De l'Infinito Universo e Mondi: Opp. Ital.* ii. 84.

Bruno's creed was Pantheism. In many passages he names and alludes to Avicebron, whose *Fons Vitæ* he had studied with great sympathy, and from whom he may have borrowed certain pantheistic ideas. He taught that God was the Infinite Intelligence, the Cause of causes, the Principle of all life and mind; the great Activity, whose action we name the Universe. But God did not *create* the universe; he *informed* it with life—with being. He *is* the universe; but only as the cause is the effect, sustaining it, *causing* it, but not limited by it. He is self-existing, yet so essentially active as incessantly to manifest himself as a Cause. Between the supreme Being and the inferior beings dependent upon him, there is this distinction: He is absolutely simple, without parts; he is one whole, identical and universal; whereas the others are mere individual parts, distinct from the great Whole. Above and beyond the visible universe there is an Infinite Invisible,—an immovable, unalterable Identity, which rules over all diversity. This Being of Beings, this Unity of Unities, is God: 'Deus est monadum monas, nempe entium entitas.'

Bruno says, that although it is impossible to conceive Nature separated from God, we can conceive God separated from

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* It is of them TELESIO energetically says: 'Sed veluti cum Deo de sapientiâ contendentes decertantesque, mundi ipsius principia et causas ratione inquirere ausi, et quæ non invenerant, inventa ea sibi esse existimantes, volentesque, veluti suo arbitratu, mundum affluxere.'—*De Rerum Naturâ*, in Proœm.

Nature. The infinite Being is the essential centre and substance of the universe, but he is above the essence and substance of all things: he is *superessentialis, supersubstantialis.* Thus we cannot conceive a thought independent of a mind, but we can conceive a mind apart from any one thought. The universe is a thought of God's mind—nay more, it is the infinite activity of his mind. To suppose the world finite is to limit his power. 'Wherefore should we imagine that the Divine activity (*la divina efficacia*) is idle? Wherefore should we say that the Divine goodness, which can communicate itself *ad infinitum*, and infinitely diffuse itself, is willing to restrict itself? Why should his infinite capacity be frustrated—defrauded of its possibility to create infinite worlds? And why should we deface the excellence of the Divine image, which should rather reflect itself in an infinite mirror, as his nature is infinite and immense?'[*]

Bruno admits the existence of only one intelligence, and that is God.[†] *Est Deus in nobis.* This intelligence, which is perfect in God, is less perfect in inferior spirits; still less so in man; more and more imperfect in the lower gradations of created beings. But all these differences are differences of degree, not of kind. The inferior order of beings do not understand themselves, but they have a sort of language. In the superior orders of beings, intelligence arrives at the point of self-consciousness—they understand themselves, and those below them. Man, who occupies the middle position in the hierarchy of creation, is capable of contemplating every phasis of life. He sees God above him—he sees around him traces of the divine activity. These traces, which attest the immutable order of the universe, constitute the soul of the world. To collect them, and connect them with the Being whence they issue, is the noblest function of the human mind. Bruno further teaches that, in proportion as man labours in this direction, he discovers that these traces, spread abroad in nature, do not differ from the *ideas* which exist in his own mind.* He thus arrives at the perception of the identity between the soul of the world and his own soul, both as reflections of the Divine intelligence. He is thus led to perceive the identity of Subject and Object, of Thought and Being.

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[*] *De l'Infinito: Opp. Ital.* ii. 24.

[†] De Morgan (*Companion to the Almanack*, 1855) says: 'Among the versions of the cause of Bruno's death is *atheism*: but this word was very often used to denote rejection of revelation, not merely in the common course of dispute, but by such writers, for instance, as Brucker and Morhof. Thus Morhof says of the *De Monade, &c.*, that it exhibits no manifest signs of atheism. What he means by the word is clear enough, when he thus speaks of a work which acknowledges God in hundreds of places, and rejects opinions as blasphemous in several.'

Such is the faint outline of a doctrine, to preach which Bruno became a homeless wanderer and a martyr; as he loftily says, 'Con questa filosofia l' anima mi s' aggrandisce, *e mi si magnifica l' intelletto.*'

In five dialogues, *La Cena de le Ceneri*, he combats the hypothesis of the world's immobility; proclaims the infinity of the universe, and warns us against seeking its centre or circumference. He enlarges on the difference between appearances and reality in celestial phenomena; argues that our globe is made of the same substance as the other planets, and that everything which *is*, is living, so that the world may be likened to a huge animal.† In this work he also answers his objectors, who bring against his system the authority of Scripture, exactly in the same way as modern geologists answer the same objection, viz. by declaring that the revelation in the Bible was a moral, not a physical revelation: it did not pretend to teach science, but, on the contrary, adopted ordinary notions, and expressed itself in the language intelligible to the vulgar.[*] In this work there are some digressions more than usually interesting to us, because they refer to the social condition of England during Elizabeth's reign.

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* 'ELP.: What is the purpose of the senses?—FIL.: Solely to excite the reason; to indicate the truth, but not to judge of it. Truth is in the sensible object as in a mirror, in the reason, as a matter of argument; in the intellect, as a principle and conclusion; but in the mind it has its true and proper form.' *De l' Infinito*, p. 18.

† An idea borrowed from PLATO, who, in the *Timæus*, says, Οὕτως οὖν δὴ κατὰ λόγον τὸν εἰκότα δεῖ λέγειν τόνδε τὸν κόσμον ζῷον ἔμψυχον ἔννουν τε τῇ ἀληθείᾳ διὰ τὴν τοῦ θεοῦ γενέσθαι πρόνοιαν.—p. 26, ed. BEKKER. Compare also *Politicus*, p. 273. BRUNO may have taken this directly from PLATO, or he might have learned it from the work of his countryman, TELESIO, *De Rerum Naturâ*.

The two works, *De la Causa* and *De l' Infinito*, contain the most matured and connected exposition of his philosophical opinions. As our space will not admit of an analysis, we must refer to the one given by M. Bartholmess.[†] The *Spaccio de la Bestia Trionfante* is the most celebrated of all his writings. It was translated by Toland, in 1713, who printed only a very few copies, as if wishing it to fall into the hands of only a few choice readers. The very title has been a sad puzzle to the world, and has led to the strangest suppositions. The 'Triumphant Beast,' which Bruno undertakes to expel, is none other than this: ancient astronomy disfigured the heavens with animals as constellations, and under guise of expelling these, he attacks the great beast (Superstition) whose predominance causes men to believe that the stars influence human affairs. In his *Cabala del Cavallo Pegaseo*, he sarcastically calls the ass 'la bestia trionfante viva,' and indites a sonnet in praise of that respectable quadruped:

> 'Oh sant' asinità, sant' ignoranza,
> Santa stoltizia, e pia divozione,
> Quai sola puoi far l' anima sì buone
> Ch' uman ingegno e studio non l' avanza' &c.

The *Spaccio* is an attack upon the superstitions of the day,—a war against ignorance, and 'that orthodoxy without morality, and without belief, which is the ruin of all justice and virtue.' Bruno fancifully calls Morality 'the astronomy of the heart;' and did not Bacon call it 'the *Georgics* of the mind'? The *Spaccio* is a strange medley of learning, imagination, and buffoonery; and on the whole, perhaps the most tiresome of all his writings. M. Bartholmess, whose admiration for Bruno greatly exceeds my own, says of it:

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[*] 'Secondo il senso volgare et ordinario modo di comprendere e parlare.' The whole of the early portion of Dialogue 4 (in which this distinction is maintained) is worth consulting.—*Opere*, i. 172 *sq.*

[†] BARTHOLMESS: *Jordano Bruno*, ii. 128-184.

'The mythology and symbolism of the ancients is there employed with as much tact as erudition. The fiction that the modern world is still governed by Jupiter and the court of Olympus, the mixture of reminiscences of chivalry, and the marvels of the middle ages, with the tales and traditions of antiquity—all those notions which have given birth to the philosophy of mythology, of religions, and of history—the Vicos and the Creuzers—this strange medley makes the *Spaccio* so interesting. The philosopher there speaks the noble language of a moralist. As each virtue in its turn appears to replace the vices which disfigure the heavens, it learns from Jupiter all it has to do, all it has to avoid: all its attributes are enumerated and explained, and mostly personified in the allegorical vein; all the dangers and excesses it is to avoid are characterised with the same vigour. Every page reveals a rare talent for psychological observation, a profound knowledge of the heart, and of contemporary society. The passions are subtly analysed and well painted. That which still more captivates the thoughtful reader is the sustained style of this long fiction, which may be regarded as a sort of philosophic sermon. Truth and wisdom, justice and candour, take the place in the future now occupied by error, folly, and falsehood of every species. In this last respect the *Spaccio* has sometimes the style of the Apocalypse.'

Without impugning the justice of this criticism, I must add, that the *Spaccio* taxes even a bookworm's patience, and ought to be read with a liberal licence in skipping.

Perhaps, of all his writings, *Gli Eroici Furori* is that which would most interest a modern reader, not curious about the philosophical speculations of the Neapolitan. Its prodigality of sonnets, and its mystic exaltation, carry us at once into the heart of that epoch of Italian culture when poetry and Plato were the great studies of earnest men. In it Bruno, avowing himself a disciple of Petrarch, proclaims a Donna more exalted than Laura, more adorable than all earthly beauty: that Donna is the imperishable image of Divine Perfection. It is unworthy of a man, he says, to languish for a woman; to sacrifice to her all those energies and faculties of a great soul, which might be devoted to the pursuit of the Divine. Wisdom, which is truth and beauty in one, is the idol adored by the genuine hero. Love woman if you will, but remember that you are also a lover of the Infinite. Truth is the food of every heroic soul; hunting for Truth the only occupation worthy of a hero.* The reader of Plato will trace here a favourite image; and was it not Berkeley who described Truth as 'the cry of all, but the game few run down'?

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See, in particular, the fine passage, *Opp. Ital.* ii. 406-7.

# FIRST EPOCH.

*Philosophy again separates itself from Theology, and seeks the aid of Science.*

## CHAPTER I.

### BACON AND DESCARTES.

IN the evolution of Philosophy, as in the evolution of an organism, it is impossible to fix with any precision a period of origin, because every beginning is also a termination, and resumes the results of a whole series of preceding evolutions. As Mr. Spedding felicitously says, our Philosophy 'was born about Bacon's time, and Bacon's name (as the brightest which presided at the time of its birth) has been inscribed upon it:

> Hesperus that led
> The starry host rode brightest. — , M.

Not that Hesperus did actually *lead* the other stars; he and they were moving under a common force, and they would have moved just as fast if he had been away; but because he shone brightest, he *looked* as if he led them.'* Bacon and Descartes are generally recognised as the Fathers of Modern Philosophy, though they themselves were carried along by the rapidly-swelling current of their age, then decisively setting in the direction of Science. It is their glory to have seen visions of the coming greatness, to have expressed in terms of splendid power the thoughts which were dimly stirring the age, and to have sanctioned the new movement by their authoritative genius. The destruction of Scholasticism was complete. They came to direct the construction of a grander temple.

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* Bacon's Works, 1857, I. 374.

There are in these two thinkers certain marked features of resemblance, and others equally marked of difference. We see their differences most strikingly in their descendants. From Bacon lineally descended Hobbes, Locke, Diderot, D'Alembert, Condillac, Cabanis, and our Scotch School. From Descartes descended Spinoza, Malebranche, Leibnitz, Fichte, Schelling, and Hegel. The Inductive Method predominated in the one school, the Deductive in the other. These differences we shall recognise more fully later on: at present we may fix our minds on the two great points of resemblance: 1st, the decisive separation of Philosophy from Theology; 2nd, the promulgation of a new Method.

There have been discussions respecting Bacon's orthodoxy which I do not meddle with here, since, whether his occasional declarations were sincere, or were only the lip-homage which men in those days paid the Church, nothing is more certain than that he quietly excluded Theology from his scheme, telling the King why he did so. 'If I proceed to treat of it, I shall step out of the bark of human reason, and enter into the ship of the Church; which is only able by the Divine compass to rightly direct its course. Neither will the stars of philosophy which have hitherto so nobly shone upon us, any longer supply their light, so that on this subject it will be as well to keep silence.'* Again, 'Sacred Theology ought to be derived from the word and oracles of God, and not from the light of nature or the dictates of human reason.' And in the corresponding part of the *Advancement of Learning*, he says: 'The use of human reason in religion is of two sorts: the former in the conception and apprehension of the mysteries of God to us revealed; the other in the inferring and deriving of doctrine and direction thereupon. The former extendeth to the mysteries themselves, but how? by way of illustration, not by way of argument.' †

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* *De Augmentis*, book ix. c. i.

† *Works*, iii. 479.

The spirit of his Philosophy was antagonistic to Theology, for it was a spirit of doubt and search; and its search was for visible and tangible results. Neither the ingenuities of logicians, nor the passionate earnestness of theologians, in that age of logicians and theologians, could lure him from his path. 'He lived in an age,' says Lord Macaulay, 'in which disputes on the most subtle points of divinity excited an intense interest throughout Europe, and nowhere more than in England. He was placed in the very thick of the conflict. He was in power at the time of the Synod of Dort, and must for months have been daily deafened with talk about election, reprobation, and final perseverance; yet we do not remember a line in his works from which it can be inferred that he was either a Calvinist or an Arminian. While the world was resounding with the noise of a disputatious theology and a disputatious philosophy, the Baconian School, like Allworthy seated between Thwackum and Square, preserved a calm neutrality, half scornful, half benevolent, and, content with adding to the sum of practical good, left the war of words to those who liked it.'

Descartes, though his constitutional timidity suppressed everything like overt hostility against the Church, was not less emphatically opposed to the theological spirit. He disengaged Philosophy from Theology by treating it as an independent topic, and by treating it on a Method which was in its essence destructive of all Theology, for it proceeded on a basis of absolute Doubt. The reign of Authority was proclaimed at an end. All the notions, all the hypotheses, all the beliefs which had filled the perplexed soul were to be ejected, and a new beginning was to be made from absolute doubt, nothing accepted till it was proved, nothing proved by authorities, but all by reasons. The clearance here was more than a clearance from scholastic argumentation and Aristotelian tradition, it was a sweeping away of all Authority whatever, succeeded by the installation of Reason as supreme arbiter. Nay, he went beyond Bacon in this respect, since he wished to introduce Reason even into the domain of Theology: 'I have always thought,' he says in the dedication of his *Meditations* to the Sorbonne, 'that the two questions of the existence of God and the nature of the soul (two questions Bacon wisely left untouched) were the chief of those which ought to be demonstrated rather by philosophy than by theology; for although it is sufficient for us, the faithful, to believe in God and that the soul does not perish with the body, it certainly does not seem possible ever to persuade the infidels to any religion, nor hardly to any moral virtue, unless we first prove to them these two things by natural reason.'

While thus encroaching on the domain of Theology, he allowed no theological encroachments on Philosophy; and in promulgating his hypothesis of the vortices, he remarks that although we know for certain that God created the world at once, yet it would be of eminent interest to see how the world *might* have been evolved. Having protected himself by this *précaution oratoire*, he proceeds with his hypothesis, and explains the world wholly without reference to God. In like manner God is assumed as the first cause of motion, but his presence is never afterwards indicated.

The separation of Philosophy from Theology is made emphatic in the rejection of Final Causes by both Bacon and Descartes. The latter says, 'Nous rejetterons entièrement de notre philosophie la recherche des causes finales; car nous ne devons pas tant présumer de nous-mêmes que de croire que Dieu nous ait voulu faire part de ses conseils;' and again: 'Tout ce genre de causes qu'on a coutume de tirer de la fin n'est d'aucun usage dans les choses physiques et naturelles.' He left them for theologians, declaring that in Physics, where every conclusion must rest on solid grounds, the appeal to final causes is inept.

But perhaps the most effective of all the novelties was the effort of Descartes to explain the system of the world by Matter and Motion only, thus quietly setting aside all causes and metaphysical entities which had hitherto been invoked. The hypothesis of vortices was indeed soon disclosed to be untenable; but the scientific attitude from which that hypothesis proceeded was never afterwards relinquished. It was a bold attempt at the application of the Objective Method, and was only defective in its restriction to Cosmology, and its exclusion of Biology, which was still left to the Subjective Method, as I shall presently notice.

The second point on which Bacon and Descartes resemble each other is in their conception of the results to be achieved by a totally new Method. Coming as they did on the top of the revolutionary wave which had washed away the old methods, seeing as they saw the striking results of physical research, and foreseeing yet more glorious conquests from the spirit which achieved those results, they yielded themselves to the pleasant illusion that a new Method would rapidly solve all problems. Bacon, as the more magnificent and imaginative mind, had grander visions, and more enthusiastic faith; but Descartes also firmly believed that the new Method was to do wonders. Indeed, it is interesting to note how these great intellects seem quite unconscious of their individual superiority, and are ready to suppose that their Method will equalise all intellects. It reminds us of Sydney Smith maintaining that any man might be witty if he tried. Descartes affirms that 'it is not so essential to have a fine understanding as to apply it rightly. Those who walk slowly make greater progress if they follow the right road than those who run swiftly on a wrong one.' To the same effect Bacon: 'A cripple on the right path will beat a racer on the wrong one.' This is true enough, but is beside the question. Equipped with good or bad instruments, the superiority of one worker over another is always made manifest; and it is precisely in the right use of a good Method that the scientific genius is called upon for its delicate and patient skill.

# CHAPTER II.

## *BACON.*

INTO the vexed questions of Bacon's conduct both with regard to Essex and with regard to bribery, I cannot enter here; but referring the curious to his biographers and critics, I will simply note that he was born in 1561; was educated at Trinity College, Cambridge, where he learned to distrust the Aristotelianism of his masters, and planned his own vast scheme of reform; went to Paris; sat in Parliament as member for Middlesex; was successively appointed of the Privy Council, and Lord Chancellor; was created Viscount Verulam; was impeached and condemned for corruption as a judge; and died in the spring of 1626. 'For my name and memory,' said the dying man, 'I leave it to men's charitable speeches, and to foreign nations, and the next age.'

Posterity has been generous: the fame of Bacon is immense. Admirers have not always been unanimous as to his special claims; but there has been no lack of enthusiasm, no questioning of his genius. He has been lauded for achievements in which he had no part, and has been adorned with titles to which he had doubtful pretensions; while his most important services have been overlooked. But the general recognition of his greatness, and our national pride in it, have not prevented certain attacks on his reputation, which have been answered in a rather angry spirit; and thus from one cause and another there is great difficulty in arriving at any candid and thorough appreciation of the work he did. It seems to some persons that Bacon did very little in rising against the philosophy of his day, and pointing out a new path; and to others it seems that he did nothing of the kind. But whoever looks closely into the writings of Bacon's predecessors will see that what now seems obvious and trivial, was then startling and important. As M. Rémusat felicitously says, 'il fallait du génie pour avoir ce bon sens.'* And to those who deny that Bacon did head the revolution, I would oppose not simply the testimony of nearly three centuries, but the testimony of Gassendi, who, both as contemporary and a foreigner, was capable of judging the effect then produced.† It is indeed apparent to any one familiar with the writings of some of Bacon's immediate predecessors, especially Galileo, that there was little novelty in his denunciations of the erroneous Method then popular, or in his exhortations to pursue Observation, Experiment, and Induction. But it is not less apparent that he had wider and profounder views of the philosophy of Method than any of them, and that the popular opinion does not err in attributing to him the glory of heading the new era.

In England he is commonly regarded as the Father of Experimental Philosophy, and the originator of the Inductive Method. Men profess themselves followers of the 'Baconian Philosophy,' sometimes confounding that with a servile attention to facts and a most unscientific scorn of theories; at other times implying that by the Baconian Method is to be understood the one on which Science has successfully been pursued. A rigorous investigation of Bacon's claims will disclose the truth of his own statement that he was rather one who sounded the trumpet-call than one who marshalled the troops. He insisted on the importance of Experiment, but he could not teach what he did not himself understand —the Experimental Method. He exhorted men to study Nature; but he could not give available directions for that study. He had fervent faith in the possible conquests of Science; but never having thoroughly mastered any one science, he was incapable of appreciating the real conditions of research. He saw clearly enough the great truth that the progress of research must be gradual, but he did not see what were the necessary grades, he did not see the kind of inquiries, and the order they must follow, before discoveries could be made. That he had really but vague and imperfect conceptions of Scientific Method is decisively shown by his contemptuous rejection of Copernicus, Galileo, and Gilbert, and by his own plan of an investigation into Heat. One sentence alone would suffice to show this, namely, his sneer at Copernicus as 'a man who thinks nothing of introducing fictions of any kind into nature, provided his calculations turn out well:' Bacon did not understand, what Copernicus profoundly saw, that the only value of an hypothesis was its reconciliation of calculations with observations. In his plan for an *Inquisition into the Nature of Heat*, we see a total misconception of the scientific process: not only does he set about it in a laboriously erroneous way, but he seeks that which science proclaims inaccessible, the *nature* of heat. It is true that he arrives at an hypothesis which bears some resemblance to the hypothesis now accepted, namely, that heat is a mode of motion—'an expansive and restrained motion, modified in certain ways, and exerted in the smaller particles of the body.' But those who have been eager to credit him with an anticipation of modern views on the strength of this definition, have overlooked the fact that it is incapable of explaining a single process, includes none of the ascertained laws of phenomena, and is itself an example of the illicit generalization which Bacon elsewhere condemns.* It was with some justification, therefore, that Harvey, who knew what science was, and knew better than most men how discoveries were made, said of him that he wrote of science like a Lord Chancellor.

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* Rémusat: *Bacon, sa vie, son temps, sa philosophie et son influence.* Paris, 1857, p. 400.

† Gassendi: *Opera*, 1658, i. 62.

Indeed it is to mistake his position, and his greatness altogether, to attribute his influence on Philosophy, which is undeniable, to an influence on Science which is more than questionable. Bacon was a philosopher; but because with him Philosophy, separating itself from the bondage of Theology, claimed to ally itself with Science, and sought its materials in the generalities of Science, those writers who have never made a very accurate distinction between the two, but have confounded Philosophy with Metaphysics, and Science with Physics, have naturally regarded Bacon as the precursor of Newton, Laplace, Faraday, and Liebig. It is in vain that critics oppose such a claim by asserting what is undeniable, that the great discoveries in modern science were neither made on Bacon's method,* nor under any direct guidance from him—that Copernicus, Galileo, and Kepler preceded him, that Harvey and Newton ignored him—stanch admirers have their answer ready: they know that Bacon was the herald of the new era, and they believe that it was his trumpet-call which animated the troops, and led them to victory.

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* WHEWELL: *Philos. of Discovery*, p. 137.

Nor can any one pretend to estimate the influence of such a trumpet-call as Bacon's. He is one of the most striking illustrations of that Literature of Power, of which mention has already been made.† His distinguishing characteristic is a large opulence of mind, at once massive and florid, wide-sweeping and subtle; and the main source of his influence has been the dignity with which he invested the objective mode of looking at things, a mode liable to degenerate into a creeping prosaism and trivial love of detail, a mode wanting also in the attractions of a facile, though illusory, subjective tendency, but the only mode of reaching truth and consequently of securing the solid grandeur of permanent results. Under Bacon's eloquent teaching men began to see that they were working nobly, as well as working usefully, in limiting their researches to realities, foregoing the delusive hopes of metaphysics, proceeding cautiously, and checking the native impatience of the mind. Galileo, both by precept and example, had shown them a victorious method of research: but Galileo did not *dignify* that method in their eyes; he did not raise it into Philosophy. Bacon, weak in Science, was strong in the Philosophy which sought materials in Science.* There was, and still is, an instinctive antagonism between philosophers and savans: the philosophers complaining that Science is too narrow in its scope, the savans proclaiming that Philosophy is too vague in its principles. Bacon was the first to conceive a Philosophy of the Sciences. He did this when he proclaimed that Physics was 'the mother of all the sciences.' That this was greatly in advance of his age may be gathered from the fact of its to this day remaining a heresy: the notion of ethics and politics having the same methods, and being susceptible of the same treatment as physics, is by the majority looked upon as fanciful, if not absurd.

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* 'That his method is impracticable,' says Mr. ELLIS, 'cannot, I think, be denied if we reflect not only that it never has produced any result, but also that the process by which scientific truths have been established cannot be so presented as even to appear to be in accordance with it.'—*Bacon's Works*, i. 38.

† See vol. i. p. 221.

Speaking of the causes of errors in preceding philosophers, Bacon says, 'A second cause of very great moment is that through all those ages wherein men of genius and learning principally or even moderately flourished, the smallest part of human industry has been spent upon natural philosophy, though this ought to be esteemed as the great mother of the sciences; for all the rest, if torn from this root, may perhaps be polished and formed for use, but can receive little increase. . . .

'But let none expect any great promotion of the sciences, especially in their effective part, *unless natural philosophy be drawn out to particular sciences; and again, unless these particular sciences be brought back again to natural philosophy.* From this defect it is that astronomy, optics, music, many mechanical arts, and what seems stranger, *even moral and*

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* HALLER well says: 'Bacon's Vergleichung mit Galiläi ist höchst ungerecht; der letztere war freilich ein besserer Mathematiker und Kenner der Sterne; aber er war auf wenige Wissenschaften eingeschränkt, und Bacon übersah sie alle wie ein Wesen von einem höheren Orden, und wie noch Niemand sie vor ihm angesehen hatte.' Cited by BOHMER: *Ueber Francis Bacon von Verulam.* Erlangen: 1864, p. 22.

*civil philosophy and logic,* rise but little above their foundations, and only skim over the varieties and surfaces of things, viz. because after these particular sciences are formed and divided off, they are no longer nourished by natural philosophy, which might give them strength and increase; and therefore no wonder if the sciences thrive not, when separated from their roots.' *

By thus bringing Science out of its laboratories into the general field of thought, and by bringing Philosophy out of its Schools into the workshops of research, Bacon really introduced the new era. Dr. Whewell well says that 'a revolution was going on, as all the greatest physical investigators of the sixteenth century were fully aware. But their writings conveyed this conviction to the public at large very slowly. Men of letters, men of rank, men of the world did not become familiar with the abstruse works in which these views were published; and above all they did not by such occasional glimpses as they took of the state of physical science become aware of the magnitude and importance of this change. But Bacon's lofty eloquence, wide learning, comprehensive views, bold pictures of the coming state of things, were fitted to make men turn a far more general and earnest gaze upon the passing change. When a man of his acquirements, of his talents, of his rank and position, of his gravity and caution, poured forth the strongest and loftiest expressions and images which his mind could supply in order to depict the "great Instauration" which he announced; in order to contrast the weakness, the blindness, the ignorance, the wretchedness under which men had laboured while they followed the long beaten track, with the light, the power, the privileges which they were to find in the paths to which he pointed; it was impossible that readers of all classes should not have their attention arrested, their minds stirred, their hopes warmed, and should not listen with wonder and pleasure to the strains of prophetic eloquence in which so great a subject was presented.' †

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* *Novum Organum*, i. Aph. 79, 80. † Whewell: *Philos. of Discovery*, p. 127.

It was Bacon's constant endeavour, as it has been the cause of his enduring fame, to teach men the real object of research, and the scope of their faculties, and to furnish them with a proper Method whereon these faculties might be successfully employed. He thus not only stands clearly out in history as the exponent of the long-agitated antagonism to all the ancient and scholastic thinkers, but also as the exponent of the rapidly increasing tendency towards positive science. He is essentially modern. All his predecessors, even in their boldest attacks upon ancient philosophy, were themselves closely allied to the spirit of that which they opposed. But Bacon was modern in culture, in object, and in method. He attacked the ancient philosophy without having thoroughly understood it: he attacked it because he saw that a method which conducted great intelligences to such absurd conclusions as those then in vogue must necessarily be false.

'Whence can arise,' he asks, 'such vagueness and sterility in all the physical systems which have hitherto existed in the world? It is not certainly from anything in nature itself; for the steadiness and regularity of the laws by which it is governed clearly mark them out as objects of precise and certain knowledge.

'Neither can it arise from any want of ability in those who have pursued such inquiries, many of whom have been men of the highest talent and genius of the ages in which they lived; and it can therefore arise from nothing else but the perverseness and insufficiency of the methods which have been pursued. Men have sought to make a world from their own conceptions, and to draw from their own minds all the materials which they employed; but if, instead of doing so, they had consulted experience and observation, they would have had facts, and not opinions, to reason about, and might have ultimately arrived at the knowledge of the laws which govern the material world.

'As things are at present conducted, a sudden transition is made from sensible objects and particular facts to general propositions, which are accounted principles, and round which, as round so many fixed poles, disputation and argument continually revolve. From the propositions thus hastily assumed, all things are derived by a process compendious and precipitate, ill suited to discovery, but wonderfully accommodated to debate.

'The way that promises success is the reverse of this. It requires that we should generalize slowly, going from particular things to those that are but one step more general; from those to others of still greater extent, and so on to such as are universal. By such means we may hope to arrive at principles, not vague and obscure, but luminous and well-defined, such as Nature herself will not refuse to acknowledge.'

Having thus indicated his position, it will be necessary to give a brief outline of the Method which he confidently believed was to be infallible and applicable in all inquiries. This was imperatively needed: 'for let a man look carefully into all that variety of books with which the arts and sciences abound, he will find everywhere endless repetitions of the same thing, varying in the method of treatment, but not new in substance, insomuch that the whole stock, numerous as it appears at first view, proves on examination to be but scanty. What was asserted once is asserted still, and what was a question once is a question still, and, instead of being resolved by discussion, is only fixed and fed.' He proposes his new Method, that thereby 'the intellect may be raised and exalted and made capable of overcoming the difficulties and obscurities of nature. The art which I introduce with this view (which I call the *Interpretation of Nature*) is a kind of logic, though the difference between it and the ordinary logic is great, indeed immense. For the ordinary logic professes to contrive and prepare helps and guards for the understanding as mine does; and in this one point they agree. But mine differs from it in three points: viz. in the end aimed at, in the order of demonstration, and in the starting point of inquiry. . . . . But the greatest change I introduce is in the form itself of induction and the judgments made thereby.

For the induction of which the logicians speak, which proceeds by simple enumeration, is a puerile thing; concludes at hazard, is always liable to be upset by a contradictory instance, takes into account only what is known and ordinary, and leads to no result. Now what the sciences stand in need of is a form of induction which shall analyse experience and take it to pieces, and by a due process of exclusion and rejection lead to an inevitable conclusion.' . . . 'Now my method, though hard to practise, is easy to explain; and it is this—I propose to establish progressive stages of certainty. The evidence of sense helped and guarded by a certain process of correction, I retain: but the mental operation which follows the act of sense I for the most part reject; and instead of it I open and lay out a new and certain path for the mind to proceed in, starting directly from the simple sensuous perception.'

Before expounding the rules which he proposes he enumerates the four sources of error, the *idols* as he terms them. He considered this enumeration as the more necessary, that the same idols were likely to return, even after the reformation of science.

These idols he divides into four classes, viz.:—

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|---|---|
| Idola Tribûs . . . . | Idols of the Tribe. |
| Idola Specûs . . . . | Idols of the Den |
| Idola Fori . . . . . | Idols of the Forum. |
| Idola Theatri . . . . | Idols of the Theatre. |

1. The *Idols of the Tribe* are the causes of error founded on human nature in general. 'The mind,' he observes, 'is not like a plane mirror, which reflects the images of things exactly as they are; it is like a mirror of an uneven surface, which combines its own figure with the figures of the objects it represents.'

Among the idols of this class we may reckon the propensity which there is in all men to find a greater degree of order, simplicity, and regularity than is actually indicated by observation. Thus as soon as men perceived the orbits of the planets to return into themselves, they supposed them to be perfect circles, and the motion in those circles to be uniform; and to these hypotheses the astronomers and mathematicians of all antiquity laboured incessantly to reconcile their observations.

The propensity which Bacon has here characterised may be called the *spirit of system.*

2. The *Idols of the Den* are those which spring from the peculiar character of the individual. Besides the causes of error common to all mankind, each individual has his own dark cavern, or den, into which the light is imperfectly admitted, and in the obscurity of which a tutelary idol lurks, at whose shrine the truth is often sacrificed.

Some minds are best adapted to mark the differences of things, others to catch at the resemblances of things. Steady and profound understandings are disposed to attend carefully, to proceed slowly, and to examine the most minute differences; while those that are sublime and active are ready to lay hold of the slightest resemblances. Each of these easily runs into excess; the one by catching continually at distinctions, the other at affinities.

3. The *Idols of the Forum* are those which arise out of the intercourse of society, and those also which arise from language.

Men believe that their thoughts govern their words; but it also happens by a certain kind of reaction that their words frequently govern their thoughts. This is the more pernicious, that words, being generally the work of the multitude, divide things according to the lines most conspicuous to vulgar apprehensions. Hence, when words are examined, few instances are found in which, if at all abstract, they convey ideas tolerably precise and defined.

4. The *Idols of the Theatre* are the deceptions which have arisen from the dogmas of different schools.

As many systems as existed, so many representations of imaginary worlds had been brought upon the stage. Hence, the name of *Idola Theatri.* They do not enter the mind imperceptibly like the other three; a man must labour to acquire them, and they are often the result of great learning and study.

After these preliminary discussions Bacon proceeds, in the Second Book of his *Organum*, to describe and exemplify the nature of induction.

The first object must be to prepare a history of the phenomena to be explained, *in all their modifications and varieties.* This history is to comprehend not only all such facts as spontaneously offer themselves, but all *the experiments instituted for the sake of discovery*, or for any of the purposes of the useful arts. It ought to be composed with great care; the facts accurately related and distinctly arranged; their authenticity diligently examined; those that rest on doubtful evidence, though not rejected, yet noted as uncertain, with the grounds of the judgment so formed. This last is very necessary, for facts often appear incredible only because we are ill-informed, and cease to appear marvellous when our knowledge is further extended. This record of facts is *Natural History.*

The Natural History being prepared of any class of phenomena, the next object is to discover, by a comparison of the different facts, the *cause* of these phenomena, or, as Bacon calls it, the *form*. The form of any quality in a body is something convertible with that quality; that is, where it exists the quality exists: thus, if transparency in bodies be the thing inquired after, the *form* of it is something found wherever there is transparency. Thus *form* differs from *cause* in this only: we call it form or essence when the effect is a permanent quality; we call it *cause* when the effect is a change or an event.

Two other subjects, subordinate to *forms*, but often essential to the knowledge of them, are also occasionally subjects of investigation. These are the latent process, *latens processus*; and the latent schematism, *latens schematismus.* The former is the secret and invisible progress by which sensible changes are brought about, and seems in Bacon's acceptation to involve the principle since called the *law of continuity*, according to which no change however small can be effected but in *time*. To know the relation between the time and the change effected in it would be to have a perfect knowledge of the latent process. In the firing of a cannon, for example, the succession of events during the short interval between the application of the match and the expulsion of the ball constitutes a latent process of a very remarkable and complicated nature, which however we can now trace with some degree of accuracy.

The latent schematism is that invisible structure of bodies on which so many of their properties depend. When we inquire into the constitution of crystals, or into the internal structure of plants, etc. we are examining into the latent schematism.

In order to inquire into the form of anything by induction, having brought together all the facts, we are to begin with considering what things are thereby *excluded* from the number of possible forms. This conclusion is the first part of the process of induction. Thus, if we are inquiring into the quality which is the cause of transparency in bodies; from the fact that the diamond is transparent, we immediately exclude rarity or porosity as well as fluidity from these causes, the diamond being a very solid and dense body.

Negative instances, or those where the *form* is wanting, to be also collected. That glass when pounded is not transparent is a negative fact when the form of transparency is inquired into; also that collections of vapours have not transparency. The facts thus collected, both negative and affirmative, should, for the sake of reference, be reduced to tables.

After a great many exclusions have been made, and left but few principles common to every case, one of these is to be assumed as the cause; and by reasoning from it synthetically we are to try if it will account for the phenomena. So necessary did this exclusive process appear to Bacon that he says, 'It may perhaps be competent to angels or superior intelligences to determine the form or essence directly, by affirmations from the first consideration of the subject; but it is certainly beyond the power of man, to whom it is only given to proceed at first by negatives, and in the last place to end in *affirmatives*, after the exclusion of everything else.'

There is, however, great difference in the value of facts. Some of them show the thing sought for in the highest degree, some in the lowest, some exhibit it simple and uncombined, in others it appears confused with a variety of circumstances. Some facts are easily interpreted, others are very obscure, and are understood only in consequence of the light thrown on them by the former. This led Bacon to his consideration of *Prerogative Instances*, or the comparative value of facts as means of discovery. He enumerates twenty-seven different species; but we must content ourselves with giving only the most important.

I. *Instantiæ solitariæ*: which are either examples of the same quality existing in two bodies otherwise different or of a quality differing in two bodies otherwise the same. In the first instance the bodies differ in all things but one. In the second they agree in all but one. Thus if the cause or *form* of colour be inquired into, *instantiæ solitariæ* are found in crystals, prisms, drops of dew, which occasionally exhibit colour, and yet have nothing in common with the stones, flowers, and metals which possess colour permanently except the colour itself. Hence Bacon concludes that colour is nothing else than a modification of the rays of light produced in the first case by the different degrees of incidence; and second by the texture or constitution of the surface of bodies. He may be considered as very fortunate in fixing on these examples, for it was by means of them that Newton afterwards found out the composition of light.

II. The *instantiæ migrantes* exhibit some property of the body passing from one condition to another, either from less to greater or from greater to less; arriving nearer perfection in the first case, or verging towards extinction in the second.

Suppose the thing inquired into were the cause of whiteness in bodies: an *instantia migrans* is found in glass, which entire is colourless, but pulverised becomes white. The same is the case with water unbroken or dashed into foam.

III. The *instantiæ ostensivæ* are the facts which show some particular property in its highest state of power and energy, when it is either freed from impediments which usually counteract it or is itself of such force as entirely to repress those impediments.

If the weight of air were inquired into, the Torricellian experiment, or the barometer, affords an *ostensive instance*, where the circumstance which conceals the weight of the atmosphere in common cases, namely the pressure of it in all directions, being entirely removed, that weight produces its full effect, and sustains the whole column of mercury in the tube.

IV. The *instances* called *analogous* or *parallel* consist of facts between which a resemblance or analogy is visible in some particulars, notwithstanding great diversity in all the rest. Such are the telescope and microscope compared to the eye. It was the experiment of the camera obscura which led to the discovery of the formation of images of external objects in the bottom of the eye by the action of the crystalline lens, and other humours of which the eye is formed.

V. *Instantiæ comitatus*: examples of certain qualities which always accompany one another. Such are flame and heat: flame being always accompanied by heat, and the same degree of heat in a given substance being always accompanied with flame.

Hostile instances, or those of perpetual separation, are the reverse of the former. Thus transparency and malleability in solids are never combined.

VI. The *instantia crucis*. When in any investigation the understanding is placed *in æquilibrio*, as it were, between two or more causes, each of which accounts equally well for the appearances as far as they are known, nothing remains to be done, but to look out for a fact which can be explained by one of these causes and not by the other. Such facts perform the office of a cross, erected at the separation of two roads, to direct the traveller which to take: hence called *crucial instances*.

The *experimentum crucis* is of such weight in matters of induction that in all those branches of science where it cannot be resorted to (an experiment being out of our power and incapable of being varied at pleasure) there is often a great want of conclusive evidence.*

It is needless to criticise at any length a set of rules which the experience of two centuries has shown to be inapplicable; but we may point to numerous passages in his works which were not only valuable in his age but continue valuable in our own. Especially noticeable is the emphasis with which he insists on a graduated and successive induction, as opposed to the hasty leaping from single facts to wide generalisations, which continues and will ever continue to be a constant source of error, and belongs to our native infirmity. There is a slight defect in his formula, which is too vague. Had he said, 'graduated Verification of inductions,' we could have hit the precise mark; for a series of inductions may be gradual and successive, yet hypothetical and erroneous; it is the Verification of each step that alone can ensure certainty. And it is worth remarking in this connection that, having imperfectly grasped the principle of Verification, he was led to misconceive the value of facts, seeming to think that quantity was of more service than quality; which every investigator knows to be wholly wrong. Thus when he blames the philosophers for theorising on a few facts, and calls their 'illicit generalisations' an anticipation of nature, he is right enough in the particular case, but vague and even wrong in principle; since a few facts of one quality are worth hundreds of another quality, and the hypothesis which he calls rash may be true, although anticipating the tardy process of proof. All depends on the validity of the facts and verification of the hypothesis. One radical defect of the method lies in its being *inductive*, and not also *deductive*. He was so deeply impressed with a sense of the insufficiency of the Deductive Method alone, which he saw his contemporaries pursuing, and which he knew to be the cause of the failure of his predecessors, that he bestowed all his attention on the Inductive Method. His want of mathematical knowledge had also no small share in this error. Although however it may be justly said that he did not sufficiently exemplify the Deductive Method, it is not correct to say that he entirely neglected it. Those who assert this forget that the second part of the *Novum Organum* was never completed. In the second part it was his intention to treat of Deduction, as is plain from the following passage: 'The indications for the interpretation of Nature include two general parts. The first relates to the raising of Axioms from experience; and the second, to the *deducing or deriving of new experiments from Axioms* (de ducendis aut derivandis experimentis novis ab axiomatibus).'* We here see that he comprehended the twofold nature of the method; but inasmuch as he did not publish the second part of his *Organum*, we may admit the remark of Professor Playfair, that 'in a very extensive department of physical science, it cannot be doubted that investigation has been carried on, not perhaps more easily, but with a less frequent appeal to experience, than the rules of the *Novum Organum* would seem to require. In all physical inquiries where mathematical reasoning has been employed, after a few principles have been established by experience, a vast multitude of truths, equally certain with the principles themselves, have been deduced from them by the mere application of geometry and algebra. . . . The strict method of Bacon is therefore only necessary where the thing to be explained is new, and where we have no knowledge, or next to none, of the powers employed.'†

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* Abridged from PLAYFAIR's *Dissertation*.

His deficiency in mathematical knowledge caused him to overlook the equal importance of Deduction and Induction:—'Bacon has judiciously remarked that the *axiomata media* of every science principally constitute its value. The lowest generalisations, until explained by and resolved into the middle principles, of which they are the consequences, have only the imperfect accuracy of empirical laws; while the most general laws are *too* general, and include too few circumstances to give sufficient indication of what happens in individual cases, where the circumstances are almost always immensely numerous. In the importance therefore which Bacon assigns, in every science, to the middle principles, it is impossible not to agree with him. But I conceive him to have been radically wrong in his doctrine respecting the mode in which these *axiomata media* should be arrived at; although there is no one proposition in his works for which he has been so extravagantly eulogised. He enunciates, as a universal rule, that induction should proceed from the lowest to the middle principles, and from those to the highest, never reversing that order, and consequently leaving no room for the discovery of new principles by way of deduction at all. It is not to be conceived that a man of Bacon's sagacity could have fallen into this mistake, if there had existed in his time, among the sciences which treat of successive phenomena, one single deductive science, such as mechanics, astronomy, optics, acoustics, etc. now are. In those sciences, it is evident that the higher and middle principles are by no means derived from the lowest, but the reverse. In some of them, the very highest generalisations were those earliest ascertained with any scientific exactness; as, for example (in mechanics), the laws of motion. Those general laws had not indeed at first the acknowledged universality which they acquired after having been successfully employed to explain many classes of phenomena to which they were not originally seen to be applicable; as when the laws of motion were employed in conjunction with other laws to explain deductively the celestial phenomena. Still the fact remains that the propositions which were afterwards recognised as the most general truths of the science were, of all its accurate generalisations, those earliest arrived at.

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* *Novum Organum*, ii. Aph. 10.

† *Dissertation prefixed to the Encyclop. Britannica*, pp. 58, 61.

'Bacon's greatest merit therefore cannot consist, as we are so often told that it did, in exploding the vicious method pursued by the ancients, of flying to the highest generalisations first, and deducing the middle principles from them, since this is neither a vicious nor an exploded method, but the universally accredited method of modern science, and that to which it owes its greatest triumphs. The error of ancient speculation did not consist in making the largest generalisations first, but in making them without the aid or warrant of rigorous inductive methods, and applying them deductively without the needful use of that important part of the deductive method termed verification.'*

We cannot entirely concur in the concluding paragraph. Although Bacon did not perhaps see the real importance of the Deductive Method, he did see the futility of the method as it was employed before his time; and he saw moreover that the cause lay in the want of 'verification'—in the want of 'the aid or warrant of rigorous inductive methods:' this we think his greatest merit, as we think his imperfect conception of the Deductive Method his greatest imperfection.

There is also another potent reason why the merely Inductive Method should not have contributed to any great discoveries; and we must borrow from the *System of Logic* the passage wherein this is exhibited:—

'It has excited the surprise of philosophers that the detailed system of inductive Logic has been turned to so little direct use by subsequent inquirers—having neither continued, except in a few of its generalities, to be recognised as a theory, nor having conducted, in practice, to any great scientific results. But this, though not unfrequently remarked, has scarcely received any plausible explanation; and some indeed have preferred to assert that all rules of induction are useless, rather than suppose that Bacon's rules are grounded upon an insufficient analysis of the inductive process. Such however will be seen to be the fact, as soon as it is considered that Bacon entirely overlooked plurality of causes. All his rules tacitly imply the assumption, so contrary to all we know of Nature, that a phenomenon cannot have more than one cause.' †

In another passage, too long for extract, the same author points out a capital error in Bacon's view of the inductive philosophy, viz. his supposition that the principle of elimination—that great logical instrument which he had the immense merit of first bringing into use—was applicable in the same sense, and in the same unqualified manner, to the investigation of *co-existences*, as to that of the *successions of phenomena*.*

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* Mill: *System of Logic*, ii. 524–6.

† *Ibid.* ii. 378.

In conclusion it may be said that, although his Method had not the power which he confidently assigned to it, his eloquence and far-reaching thoughts powerfully affected both his own and succeeding generations. He dignified the scientific attitude; he made men proud of investigations which otherwise they might have disdained; he kept before them the vanity of the Subjective Method, and passionately urged upon them the necessity of patient interrogation of Nature. The splendour of his style gave irresistible power to his ideas. 'Il se saisit tellement de l'imagination,' says M. Rémusat, 'qu'il force la raison à s'incliner, et il éblouit autant qu'il éclaire.'

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*System of Logic*, ii. 127 *et seq.*

# CHAPTER III.

## *DESCARTES.*

### § I. LIFE OF DESCARTES.

JUST at the close of the sixteenth century, 1596, there was born in Touraine, of Breton parents, a feeble sickly child, named René Descartes Duperron. A few days after his birth, a disease of the lungs carried off his mother. The sickly child grew to be a sickly boy; and, till the age of twenty, his life was despaired of.

That boy was one the world could ill afford to lose. Few who saw him creeping on the path, which his companions galloped along like young colts, would have supposed that the boy, whose short dry cough and paleness seemed to announce an early grave, was shortly to become one of the leaders of men, whose works would continue, through centuries, to be studied, quoted, and criticised. His masters loved him. He was a pupil of promise; and in his eighth year had gained the title of the Young Philosopher, from his avidity to learn, and his constant questioning.

His education was confided to the Jesuits. This astonishing body has many evils laid to its door, but no one can refuse to it the praise of having been ever ready to see and apply the value of education. In the college of La Flèche the young Descartes was instructed in mathematics, physics, logic, rhetoric, and the ancient languages. He was an apt pupil; learned quickly, and was never tired of learning.

Was the food supplied by the Jesuits nutritious? M.

Thomas remarks, 'There is an education for the ordinary man; for the man of genius there is no education but what he gives himself; the second generally consists in destroying the first.' And so it was with Descartes, who, on leaving La Flèche, declared that he had derived no other benefit from his studies than that of a conviction of his utter ignorance, and a profound contempt for the systems of philosophy in vogue. The incompetence of philosophers to solve the problems they occupied themselves with—the anarchy which reigned in the scientific world, where no two thinkers could agree upon fundamental points—the extravagance of the conclusions to which some accepted premisses led, determined him to seek no more to slake his thirst at their fountains.

'And that is why, as soon as my age permitted me to quit my preceptors,' he says, 'I entirely gave up the study of letters; and resolving to seek no other science than that which I could find in myself, or else in the great book of the world, I employed the remainder of my youth in travel, in seeing courts and camps, in frequenting people of diverse humours and conditions, in collecting various experiences, and above all in endeavouring to draw some profitable reflection from what I saw. For it seemed to me that I should meet with more truth in the reasonings which each man makes in his own affairs, and which, if wrong, would be speedily punished by failure, than in those reasonings which the philosopher makes in his study, upon speculations which produce no effect, and which are of no consequence to him, except perhaps that he will be more vain of them the more remote they are from common sense, because he would then have been forced to employ more ingenuity and subtlety to render them plausible.'*

For many years he led a roving unsettled life; now serving in the army, now making a tour; now studying mathematics in solitude, now conversing with scientific men. One constant purpose gave unity to those various pursuits. He was elaborating his answers to the questions which perplexed him; he was preparing his Method.

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* *Discours de la Méthode*, p. 6, ed. JULES SIMON: Paris, 1844.

When only three-and-twenty, he conceived the design of a reformation in philosophy. He was at that time residing in his winter quarters at Neuburg, on the Danube. His travels soon afterwards commenced, and at the age of thirty-three he retired into Holland, there in silence and solitude to arrange his thoughts into a consistent whole. He remained there eight years; and so completely did he shut himself from the world that he concealed from his friends the very place of his residence.

When the results of this meditative solitude were given to the world, in the shape of his celebrated *Discourse on Method*, and his *Meditations* (to which he invented replies), the sensation produced was immense. It was evident to all men that an original and powerful thinker had arisen; and although of course this originality could not but rouse much opposition, from the very fact of being original, yet Descartes gained the day. His name became European. His controversies were European quarrels. Charles I. of England invited him over, with the promise of a liberal appointment; and the invitation would probably have been accepted, had not the civil war broken out. He afterwards received a flattering invitation from Christina of Sweden, who had read some of his works with great satisfaction, and wished to learn from himself the principles of his philosophy. He accepted it, and arrived in Stockholm in 1649. His reception was most gratifying, and the Queen was so pleased with him as earnestly to beg him to remain with her, and give his assistance towards the establishment of an academy of sciences. But the delicate frame of Descartes was ill fitted for the severity of the climate, and a cold, caught in one of his morning visits to Christina, produced inflammation of the lungs, which carried him off. Christina wept for him, had him interred in the cemetery for foreigners, and placed a long eulogium upon his tomb. His remains were subsequently (1666) carried from Sweden into France, and buried with great ceremony in St. Geneviève du Mont.

Descartes was a great thinker; but having said this, we have almost exhausted the praise we can bestow upon him as a man. In disposition he was timid to servility. When promulgating his proofs of the existence of the Deity, he was in evident alarm lest the Church should see something objectionable in them. He had also written an astronomical treatise; but hearing of the fate of Galileo, he refrained from publishing, and always used some chicane in speaking of the world's movement. He was not a brave man; nor was he an affectionate man. But he was even-tempered, placid, and studious not to give offence.

## § II. THE METHOD OF DESCARTES.

It has already been indicated that the great work performed by Descartes was, like that of Bacon, the promulgation of a new Method. This was rendered necessary by their separation from the ancient philosophy and their exclusion of Authority. If inquiry is to be independent if Reason is to walk alone, in what direction must she walk? Having relinquished the aid of the Church, there were but two courses open: the one, to tread once more in the path of the ancients, and to endeavour by the ancient Methods to attain the truth; or else to open a new path, to invent a new Method. The former was barely possible. The spirit of the age was deeply imbued with a feeling of opposition against the ancient Methods; and Descartes himself had been painfully perplexed by the universal anarchy and uncertainty which prevailed. The second course was therefore chosen.

Uncertainty was the disease of the epoch. Scepticism was wide-spread, and even the most confident dogmatism could offer no criterion of certitude. This want of a criterion we saw leading, in Greece, to Scepticism, Epicureanism, Stoicism, the New Academy, and finally leading the

Alexandrians into the province of faith, to escape from the dilemma. The question of a citerion had long been the vital question of philosophy. Descartes could get no answer to it from the doctors of his day. Unable to find firm ground in any of the prevalent systems; distracted by doubts; mistrusting the conclusions of his own understanding; mistrusting the evidences of his senses, he determined to make a *tabula rasa*, and reconstruct his knowledge. He resolved to examine the premisses of every conclusion, and to believe nothing but upon the clearest evidence of reason; evidence so convincing that he could not by any effort refuse to assent to it.

He has given us the detailed history of his doubts. He has told us how he found that he could plausibly enough doubt of everything, except of his own existence. He pushed his scepticism to the verge of self-annihilation. There he stopped: there, in Self, in his Consciousness, he found at last an irresistible Fact, an irreversible Certainty.

Firm ground was discovered. He could doubt the existence of the external world, and treat it as a phantasm; he could doubt the existence of God, and treat the belief as a superstition; but of the existence of his thinking, doubting, mind no sort of doubt was possible. He, the doubter, existed, if nothing else existed. The existence that was revealed in his own Consciousness was the primary Fact, the first indubitable certainty. Hence his famous *Cogito, ergo Sum*: I think, therefore I am.

It is somewhat curious, and, as an illustration of the frivolous verbal disputes of philosophers, not a little instructive, that this celebrated *Cogito, ergo Sum*, should have been frequently attacked for its logical imperfection. It has been objected, from Gassendi downwards, that to say, 'I think, *therefore* I am,' is a begging of the question, since existence has to be *proved* identical with thought. Certainly, if Descartes had intended to prove his own existence by reasoning, he would have been guilty of the *petitio principii* Gassendi attributes to him; viz. that the major premiss, 'that which thinks exists,' is assumed, not proved. But he did not intend this. What was his object? He has told us that it was to find a starting-point from which to reason—to find an irreversible certainty. And where did he find this? In his own Consciousness. Doubt as I may, I cannot doubt of my own existence, because my very doubt reveals to me a something which doubts. You may call this an assumption, if you will: I point out the fact as one above and beyond all logic; which logic can neither prove nor disprove; but which must always remain an irreversible certainty, and as such a fitting basis of philosophy.*

I exist. No doubt can darken such a truth; no sophism can confute this clear principle. This is a certainty, if there be none other. This is the basis of all science. It is in vain to ask for a proof of that which is self-evident and irresistible. I exist. The *consciousness* of my existence is to me the assurance of my existence.

Had Descartes done no more than point out this fact, he would have no claim to notice here; and we are surprised to find many writers looking upon this *Cogito, ergo Sum*, as constituting the great idea in his system. Surely it is only a statement of universal experience—an epigrammatic form given to the common-sense view of the matter. Any clown would have told him that the assurance of his existence was his consciousness of it; but the clown would not have stated it so well. He would have said: I know I exist, because I *feel* that I exist.

Descartes therefore made no discovery in pointing out this fact as an irresistible certainty. The part it plays in his system is only that of a starting-point. It makes *Consciousness* the basis of all truth. There is none other possible. Interrogate Consciousness, and its clear replies will be Science. Here we have a new basis and a new philosophy introduced. It was indeed but another shape of the old formula, 'Know thyself,' so differently interpreted by Thales,

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* See his replies to the third and fifth series of Objections, affixed to his *Meditations*.

Socrates, and the Alexandrians: but it gave that formula a precise signification, a thing it had before always wanted. Of little use could it be to tell man to know himself. How is he to know himself? By looking inwards? We all do that. By examining the nature of his thoughts? That had been done without success. By examining the *process* of his thoughts? That too had been accomplished, and the logic of Aristotle was the result.

The formula needed a precise interpretation; and that interpretation Descartes gave. Consciousness, said he, is the basis of all knowledge; it is the only ground of absolute certainty. Whatever it distinctly proclaims must be true. The process, then, is simple: examine your Consciousness, and its clear replies. Hence the vital portion of his system lies in this axiom, *all clear ideas are true*: whatever is clearly and distinctly conceived is true. This axiom he calls the foundation of all science, the rule and measure of truth.*

The next step to be taken was to determine the rules for the proper detection of these ideas; and these rules he has laid down as follows:—

I. Never to accept anything as true but what is *evidently* so; to admit nothing but what so clearly and distinctly presents itself as true that there can be no reason to doubt it.

II. To divide every question into as many separate questions as possible; that each part being more easily conceived, the whole may be more intelligible.—(Analysis.)

III. To conduct the examination with order, beginning by that of objects the most simple, and therefore the easiest to be known, and ascending little by little up to knowledge of the most complex.—(Synthesis.)

IV. To make such exact calculations, and such circumspections, as to be confident that nothing essential has been omitted.

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* 'Hâc igitur detectâ veritate simul etiam invenit omnium scientiarum fundamentum: ac etiam omnium aliarum veritatum mensuram ac regulam; scilicet, quicquid tam clarè ac distinctè percipitur quàm istud verum est.'—*Princip. Phil.* p. 4.

Consciousness being the ground of all certainty, everything of which you are clearly and distinctly conscious must be true; everything which you clearly and distinctly conceive exists, if the idea of it involves existence.

In the four rules, and in this view of Consciousness, we have only half of Descartes' system: the psychological half. It was owing, we believe, to the exclusive consideration of this half that Dugald Stewart was led (in controverting Condorcet's assertion that Descartes had done more than either Galileo or Bacon towards experimental philosophy) to say that Condorcet would have been nearer the truth if he had pointed him out as the Father of the Experimental Philosophy of the Mind. Perhaps the title is just; but Condorcet's praise, though exaggerated, was not without good foundation.

There is, in truth, another half of Descartes' system; equally important, or nearly so: we mean the Deductive Method. His eminence as a mathematician is universally recognised. He was the first to make the grand discovery of the application of Algebra to Geometry; and he made this at the age of twenty-three. The discovery that geometrical curves might be expressed by algebraical numbers, though highly important in the history of mathematics, only interests us here by leading us to trace his philosophical development. He was deeply engrossed in mathematics; he saw that mathematics were capable of a still further simplification, and of a far more extended application. Struck as he was with the certitude of mathematical reasoning, he began applying the principles of mathematical reasoning to the subject of metaphysics. His great object was, amidst the scepticism and anarchy of his contemporaries, to found a system which should be solid and convincing. He first wished to find a basis of certitude—a starting-point: this he found in Consciousness. He next wished to find a method of certitude: this he found in mathematics.

'Those long chains of reasoning,' he tells us, 'all simple and easy, which geometers use to arrive at their most difficult demonstrations, suggested to me that all things which came within human knowledge must follow each other in a similar chain; and that provided we abstain from admitting anything as true which is not so, and that we always preserve in them the order necessary to deduce one from the other, there can be none so remote to which we cannot finally attain, nor so obscure but that we may discover them.'[*] From these glimpses of the twofold nature of Descartes' Method, it will be easy to see into his whole system: Consciousness being the only ground of certitude, mathematics the only method of certitude.

We may say therefore that the Deductive Method was now completely constituted. The whole operation of philosophy henceforth consisted in deducing consequences. The premisses had been found; the conclusions alone were wanting. This was held to be true of physics no less than of psychology. Thus, in his *Principia*, he announces his intention of giving a short account of the principal phenomena of the world, not that he may use them as reasons to prove anything; for he adds, 'we desire to *deduce effects from causes, not causes from effects*: but only in order that out of the innumerable effects which we learn to be capable of resulting from the same causes, we may determine our minds to consider some rather than others.'[†]

Such being the Method of Descartes, our readers will hear with surprise that some French writers have declared it to be the same Method as that laid down by Bacon; and this surprise will be heightened on learning that M. Victor Cousin is one of those writers. He says, 'Let us now see what our Descartes has done. He has established in France the same Method that England has endeavoured to attribute exclusively to Bacon; and he has established it with less grandeur of imagination in style, but with the superior precision which must always characterise one who, not content with laying down rules, puts them himself in practice, and gives the example with the precept.'* M. Çousin then quotes the four rules we have already given; and seeing in them Analysis and Synthesis, which he believes solely to constitute the Method of Bacon, declares that the two Methods are one. Such a statement requires no refutation; nor indeed would it have been noticed, did it not afford an illustration of the loose way in which the term Method is employed by many writers.

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[*] *Discours de la Méthode*, p. 12.

[†] *Principia Philos.* pars iii. p. 51. The phrase, 'cupimus enim rationes effectuum à causis, non autem è contrario causarum ab effectibus deducere,' may be said to express the nature of his method, as opposed to the method of Bacon.

And here may be resumed and closed the parallel previously commenced between Bacon and Descartes, assigning to each his distinctive position. Both may be said to have instituted the Objective Method, though both in varying degrees failed to complete that attempt by an extension to all matters of inquiry, embracing both man and the world. The aberration is especially noticeable in Descartes, who, having subordinated all cosmical speculations to the Objective Method, having promulgated an hypothesis which was to explain the phenomena of the world on the properties recognised in matter without the intervention of occult qualities, entities, or volitions, and having even extended this principle to the chief physical aspects of the organism, broke suddenly away when he arrived at mental and social problems, and reintroduced the Subjective Method, which indeed he proclaimed (though he was untrue to his announcement) to be *the* Method of all philosophic research. His aberration is all the more striking because he had boldly asserted the automatism of animals. He denied that they had moral and mental faculties: they were, he said, machines. This hypothesis has been variously interpreted. It is too repugnant to common sense to gain general acceptance, and being so repugnant, it has puzzled the ingenuity of critics to explain how Descartes came to adopt it. I am not prepared with a satisfactory explanation, but note that this effort to reduce animal phenomena to a mechanism is only an extension of the effort to reduce cosmical phenomena to a mechanism, and that the denial of a soul to brutes is a rigorous consequence of the Method employed by him.*

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* *Hist. de la Phil.* leçon iii. p. 91, ed. Bruxelles, 1840.

Thus on the one hand his antagonism to the Scholastic Philosophy, aided by his scientific knowledge, led him to the objective point of view in studying Cosmology, while on the other hand his psychological inquiries reintroduced the subjective point of view, and thus not only thwarted the perfect conception of Method but led, as it always leads, to great imperfection in the application of particular methods. A perfect employment of Method includes both the Induction of Bacon and the Deduction of Descartes, with some subsidiary processes which neither of them understood, especially the use of Hypothesis and Experiment. If it was Bacon's error to undervalue Deduction, it was no less the error of Descartes to undervalue Induction, owing to the influence of the Subjective Method, which naturally leads to the mistake of overlooking the essential requisite of Verification. The Subjective Method is always deductive, and its deductions are logically formed on the same process as those of the Objective Method; but there is a philosophical difference between the two: the *data* of the first are not verified inductions, nor are the conclusions verified by confrontation with reality; the *data* and conclusion of the second are rigorously verified.

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* 'Quels qu'aient été les graves inconvéniens réels de cette singulière théorie automatique, il importe de noter que c'est précisément pour la réfuter que les physiologistes, et surtout les naturalistes du siècle dernier, furent graduellement conduits à détruire directement la vaine séparation fondamentale que Descartes avait ainsi tenté d'établir entre l'étude de l'homme et celle des animaux.'—COMTE: *Cours de Philos. Positive*, iii. 763. 'Le fameux partage opéré par Descartes n'a pu avoir d'autre efficacité essentielle que de procurer à la méthode positive la liberté nécessaire à sa formation graduelle, jusqu'à ce que sa constitution fût devenue assez complète pour lui permettre de s'emparer enfin du seul sujet qui lui eût d'abord été interdit.'—*Ibid.* p. 771. It should be added that, however absurd this hypothesis may have seemed, it was speedily reproduced by the majority even of those who made merry with it, nor is it yet finally extinct; for what is the popular notion of animals impelled by Instinct to actions which in man are the results of Reason, but a vague form of the notion that animals are mere machines without intelligent direction?

Although Bacon failed to recognise the importance of Deduction yet he did recognise the necessity of the objective point of view, and sought the laws of phenomena in the order of the phenomena themselves. He sought an alliance with scientific research, and did his best to institute its methods. He was fully alive to the illusions of the Subjective Method. Not so Descartes. His basis was subjective. He attempted a systematic arrangement of the external phenomena according to deductions from unverified data. So far from looking out of himself for the explanation of external phenomena, it was his constant aim to discover in the orderly arrangement of ideas a key to the mystery of the world. This, indeed, Leibnitz proclaims as his chief merit.[*] Although, therefore, Descartes sought alliance with scientific research, his Philosophy was essentially metaphysical; and although he made discoveries in Science, his fame is that of a great metaphysician.

While Bacon urged the necessity of proceeding from effects to causes, Descartes proceeded from causes to effects. Bacon erred as to the *nature* of the causes we should seek, as to the operation of a multiplicity of causes, and as to the methods of search. Descartes erred still more gravely in starting from data that were logical figments or subjective inspirations. Both separated Philosophy from Theology, and thus consummated the long struggle which accompanied the birth-pangs of modern culture: but Bacon, true to the objective point of view, declared the problems of Theology and Ontology to be inaccessible to reason, consequently beyond the province of Philosophy; Descartes, true to the subjective point of view, declared them to be soluble *only* by reason, and made it the primary object of Philosophy to solve them.

It is therefore with justice that modern Science looks up to Bacon as its illustrious herald, and modern Metaphysics sees its ancestry in the schools which issued directly from Descartes. The metaphysical character of the Cartesian philosophy is well expressed by Fontenelle in his parallel between Descartes and Newton: 'Tous deux, géomètres excellents, ont vu la nécessité de transporter la géométrie dans la physique. . . . Mais l'un, prenant un vol hardi, a voulu se placer à la source de tout, se rendre maître des premiers principes par quelques idées claires et fondamentales, pour n'avoir plus qu'à descendre aux phénomènes de la nature comme à des conséquences nécessaires; l'autre, plus timide ou plus modeste, a commencé sa marche par s'appuyer sur les phénomènes pour remonter aux principes inconnus, résolu de les admettre, quels que les pût donner l'enchaînement des conséquences. L'un part de ce qu'il entend nettement pour trouver la cause de ce qu'il voit; l'autre part de ce qu'il voit pour en trouver la cause, soit claire, soit obscure.'

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[*] 'On ne peut nier que Descartes n'ait apporté de belles choses; surtout il a le mérite, renouvellant l'entreprise de Platon, de détourner les esprits des considérations sensibles.'—LEIBNITZ: *Sur une Réforme de la Philos. Première.*

## § III. Application of the Method.

The first application of Descartes' Method was not, as some say, to prove his own existence (for that neither admitted of *logical* proof nor of disproof: it was a primary fact); but to prove the existence of God.

Interrogating his Consciousness, he found that he had the idea of God, understanding, by God, a substance infinite, eternal, immutable, independent, omniscient, omnipotent. This, to him, was as certain a truth as the truth of his own existence. I exist: not only do I exist, but exist as a miserably imperfect finite being, subject to change—greatly ignorant, and incapable of creating anything. In this, my Consciousness, I find by my finitude that I am not the All; by my imperfection, that I am not perfect. Yet an infinite and perfect being must exist, because infinity and perfection are implied, as correlatives, in my *ideas* of imperfection and finitude. God therefore exists: his existence is clearly proclaimed in my Consciousness, and can no more be a matter of doubt, when fairly considered, than my own existence. The conception of an infinite being proves his real existence; for if there is not really such a being, *I* must have made the conception; but if I could make it, I can also unmake it, which evidently is not true; therefore there must be, externally to myself, an archetype from which the conception was derived.

'The ambiguity in this case,' it has been remarked,* 'is the pronoun *I*, by which in one place is to be understood my *will*, in another *the laws of my nature*. If the conception, existing as it does in my mind, had no original without, the conclusion would unquestionably follow that *I* had made it—that is, the laws of my nature must have spontaneously evolved it; but that my *will* made it would not follow. Now, when Descartes afterwards adds that I cannot unmake the conception, he means that I cannot get rid of it by an act of my will, which is true, but is not the proposition required. That what some of the laws of my nature have produced, other laws, or the same laws in other circumstances, might not subsequently efface, he would have found it difficult to establish.'

His second demonstration is the weakest of the three. Indeed, it is the only one not irrefragable, upon his principles. The third demonstration is peculiarly Cartesian, and may be thrown into this syllogism:—

> All that we clearly and distinctly conceive as contained in anything is true of that thing.
>
> Now we conceive, clearly and distinctly, that the existence of God is contained in the idea we have of him.
>
> *Ergo,*
>
> God exists.

Having demonstrated the existence of God, he had to prove the distinction between body and soul. This, to him was easy. The fundamental attribute of Substance must be extension, because we can abstract from Substance all the qualities except extension. The fundamental attribute of

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* Mill: *System of Logic*, ii. 447.

Mind is thought, because by this attribute Mind is revealed to itself. Now, according to one of his logical axioms, two substances are really distinct when their ideas are complete, and in no way imply each other. The ideas, therefore, of extension and thought being distinct, it follows that Substance and Mind are distinct in essence.

We need not pursue our analysis of his metaphysical notions further. We only stop to remark on the *nature* of his demonstrations of God and the soul. It is, and was, usual to prove the existence of God from what is called the 'evidence of design.' Descartes neither started from design nor from motion, which must have a mover: he started from the *à priori* ideas of perfection and infinity; his proof was in the clearness of his idea of God. His method was that of definition and deduction. To define the idea of God, and hence to construct the world—not to contemplate the world, and thence infer the existence of God—was the route he pursued. Is it not eminently the procedure of a mathematician? and of a mathematician who has taken Consciousness as his starting-point?

Descartes' speculations are beautiful exemplifications of his Method; and he follows that Method, even when it leads him to the wildest conclusions. His physical speculations are sometimes admirable (he made important discoveries in optics), but mostly fanciful. The famous theory of vortices deserves a mention here, as an example of his Method.

He begins by banishing the notion of a *vacuum*, not, as his contemporaries said, because Nature has a horror of vacuum, but because, the essence of Substance being extension, wherever there is extension there is Substance, consequently empty space is a chimera. The substance which fills all space must be assumed as divided into equal angular parts. Why must this be assumed?—Because it is the most simple, therefore the most natural, supposition. This substance being set in motion, the parts are ground into a spherical form; and the corners thus rubbed off, like filings or sawdust, form a second and more subtle kind of substance. There is, besides, a kind of substance, coarser and less fitted for motion. The first kind makes luminous bodies, such as the sun and fixed stars; the second makes the transparent substance of the skies; the third kind is the material of opaque bodies, such as earth, planets, etc. We may also assume that the motions of these parts take the form of revolving circular currents, or *vortices*. By this means the matter will be collected to the centre of each vortex, while the second or subtle matter surrounds it, and by its centrifugal effort constitutes light. The planets are carried round the sun by the motion of this vortex, each planet being at such a distance from the sun as to be in a part of the vortex suitable to its solidity and mobility. The motions are prevented from being exactly circular and regular by various causes. For instance, a vortex may be pressed into an oval shape by contiguous vortices.*

Descartes, in his Physics, adopted a method which permitted him to set aside the *qualities* and the *substantial forms* (which others were seeking), and to consider only the relations of number, figure, and motion. In a word, he saw in Physics only mathematical problems. This was premature. Science, in its infancy, cannot be carried on by the Deductive Method alone: such a process is reserved for its maturity. The reason is that the Deduction is only valid when it is employed on the Objective Method.

But Deduction is a potent instrument, and Bacon's greatest error was in not sufficiently acknowledging it. Hence we may partly account for the curious fact that Bacon, with his Induction, made no discoveries, while Descartes, with his Deduction, made important discoveries. Of course the greater physical knowledge of Descartes, and the greater attention bestowed by him upon physics, had much to do with this, by giving him an objective basis: but his Method also assisted him, precisely because his discoveries were of a kind to which the mathematical reasoning was strictly applicable.

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* We have followed Dr. WHEWELL's exposition of this theory, as given by him, *Hist. of Ind. Sciences*, ii. p. 134. The reader will do well, however, to turn also to DESCARTES' own exposition in the *Principia Philosophiæ*, where it is illustrated by diagrams.

That Descartes had read Bacon there is no doubt. He has himself praised Bacon's works as leaving nothing to be desired on the subject of *experience*; but he perceived Bacon's deficiency, and declared that we are 'liable to collect many *superfluous* experiences of particulars, and not only superfluous but false,' if we have not ascertained the truth *before* we make these experiences. In other words, experiment should be the verification of an *à priori* conception; whereas Bacon teaches us to form our conceptions from experiment.

We have said enough to make the Method of Descartes appreciable. His position is that of founder of the Deductive Method on the basis of Consciousness. His scholars may be divided into the mathematical cultivators of Physics and the deductive cultivators of Philosophy. By the first he was speedily surpassed, and his influence on them can only be regarded as an impulsion. By the second he was *continued*: his principles were unhesitatingly accepted, and only developed in a somewhat different manner.

His philosophical Method subsists in the present day. It is the Method implicitly or explicitly adopted by most metaphysicians in their speculations upon ontological subjects. Is it a good Method? The question is of the highest importance: we will endeavour to answer it.

## § IV. IS THE METHOD TRUE?

In the Dedicatory Epistle prefixed to his *Meditations*, Descartes declares that his demonstrations of the existence of God, etc. 'equal, or even surpass, in certitude the demonstrations of geometry.' Upon what does he found this belief? He founds it upon the very nature of certitude. Consciousness is the basis of all certitude. Whatever I am distinctly conscious of, I must be certain of; all the ideas which I find in my Consciousness, as distinctly conceived, must be true. The belief I have in my existence is derived from the fact of my Consciousness: I *think*, therefore I *exist*. Now as soon as I conceive a truth with distinctness, I am irresistibly led to believe in it; and if that belief is so firm that I can never have any reason to doubt that which I believe, I have all the certitude that can be desired.

Further: we have *no knowledge whatever of anything external to us except through the medium of ideas.* The consequence is, says Descartes, that *whatever we find in the ideas must necessarily be in the external things.*

It is only in our minds that we can seek whether things exist, or not. There cannot be more reality in an effect than in a cause. The external thing, being the cause of the idea, must therefore possess as much reality as the idea, and *vice versâ.* So that whatever we conceive as existent exists.

This is the basis on which Descartes' system is erected; if this basis be rotten, the superstructure must fall. If the root is vitiated, the tree will bear no fruit. No thinker, except Spinoza, has so clearly, so frankly, stated his criterion.

And the criterion is fallacious. The very Consciousness to which he appeals convicts him. There is this fallacy in his system: Consciousness is the ultimate ground of certitude, *for me*; if I am conscious that I exist, I cannot doubt that I exist; if I am conscious of pain, I must be in pain. This is self-evident. But what ground of certitude can my Consciousness afford respecting things which are *not me*? How does the principle of certitude apply? How far does it extend? It can only extend to things which relate to me. I am conscious of all that passes within myself; but I am not conscious of what passes in not-self: all that I can possibly know of the not-self is in its effects upon me.

Consciousness is therefore 'cabin'd, cribb'd, confined' to *me*, and to what passes within *me*; so far does the principle of certitude extend, and no farther. Any other ideas we may have, any knowledge we may have respecting *not-self*, can only be founded on inferences. Thus, I burn myself in the fire: I am conscious of the sensation; I have certain and immediate knowledge of that. But I can only be certain that a change has taken place in my consciousness; when from that change I infer the existence of an external object (the fire), my inference *may* be correct, but I have obviously shifted my ground; Consciousness—my principle of certitude—forsakes me here: I go out of myself to infer the existence of something which is not-self. My knowledge of the sensation was *immediate*, indubitable. My knowledge of the object is *mediate*, uncertain.

Directly therefore we leave the ground of Consciousness for that of inference, avenues of doubt are opened. Other inferences can be brought to bear upon any one inference to illustrate or to refute it. The mathematical certainty which Descartes attributed to these inferences becomes a great uncertainty. He says we only know things through the medium of ideas. We accept the proposition as unquestionable. But then he also says that, in consequence of this, whatever we find in the ideas must necessarily be true of the things. The reason is, that as ideas are caused in us by objects, and as every effect must have as much reality as the cause—the effect being *equal* to the cause—so must ideas have the same reality as things. But this is a double fallacy. In the first place, an effect is not *equal to* its cause; it is a mere consequent of an antecedent, having no such relation as *equality* whatever. In the second place, the use of the term 'reality' is ambiguous. Unquestionably an effect really exists; but reality of existence does not imply similarity of modes of existence. The burn occasioned by a fire is as *real* as the fire; but it in no way *resembles* the fire.

So when Descartes says that what is true of ideas must be true of things, he assumes that the mind is a passive recipient—a mirror, in which things reflect themselves. This is altogether fallacious; the mind is an *active* co-operator in all perception—perception is a consciousness of changes operated in ourselves, not a consciousness of the objects causing those changes. In truth, so far from our being able to apprehend the nature of things external to us, there is an impenetrable screen for ever placed before our eyes, and that impenetrable screen is the very Consciousness upon which Descartes relies. When placed in contact with external objects, they operate upon us; their operations we know, themselves we cannot know; precisely because our knowledge of them is *mediate*, and the medium is our Consciousness. Into whatever regions we wander, we carry with us this Consciousness, by means of which, indeed, we know, but all we know is—*ourselves*.

Knowledge is composed of Ideas. Ideas are the joint product of mind on the one hand and of external causes on the other; or rather we may say that Ideas are the internal movements excited by external causes. Upon what principles of inference (since we are here on the ground of inference) can you infer that the ideas excited are *copies* of the exciting causes—that the ideas excited apprehend the whole nature of the causes? The cause of the fallacy is in that very strong disposition to give objectivity to a law of the mind; in consequence of which we often hear people declare that something they are asserting is 'involved in the idea.'

An exposition of the fallacy which misled Descartes is given by Mr. Mansel in the following admirable passage: '*Clearness* and *distinctness* were proposed by Descartes as criteria of the truth of ideas; but that philosopher has nowhere accurately distinguished between thought properly so called and other states of consciousness, nor between the *formal* clearness and distinctness which depend on the relation of one thought to another and the *material* clearness and distinctness which depend on the relation of a thought to its object as presented. A concept is formally clear when it can be distinguished as a whole from any other; it is formally distinct when its several constituent elements can be analysed and distinguished from each other; but this is a criterion of logical reality alone, of the mental conceivability, not of the extra-mental existence of the object. If I have a clear and distinct notion of gold and of a mountain, I have also a clear and distinct notion of a golden mountain, though the objects of the two first notions are real, and of the last imaginary. On the other hand, a concept will be materially clear and distinct if it accurately expresses the character of the object itself, and its component elements as they actually exist in nature. These qualities can obviously exist only in those notions which represent real objects; and in this case the clearness and distinctness can only be ascertained by an exact comparison of the object with its notion, i.e. by experience.' *

It is true that Descartes was more or less aware of the equivocal nature of his canon, since he adds to the requisite of clearness the proviso that the idea shall involve existence, which would be tantamount to Mr. Mansel's phrase 'material clearness.' But he gives no test whereby this material clearness may be ascertained; and in his speculations the material element is frequently disregarded. The experience, which he may be supposed to have silently understood in reference to some objects, could not have been implied in others. How can experience verify the material clearness of our formal idea of God? of the soul? of cause?

There is, indeed, but one mode of escape for Descartes, and all those who believe in the validity of ontological speculations: namely, to assert the existence of Innate Ideas, or—as the theory is generally stated in modern times—of Necessary Truths independent of all experience. If the idea of God, for example, be innate in us, it is no longer a matter of inference, but of Consciousness; and on such an hypothesis Descartes is correct in believing that the certainty of this idea equals the certainty of geometry.

But some maintain that he did not assert the existence of Innate Ideas, though, from its having been a doctrine maintained by his followers, it is usually attributed to him. Dugald Stewart quotes the following passage from Descartes in reply to his adversaries, who accused him of holding the tenet of Innate Ideas:—'When I said that the idea of God is innate in us, I never meant more than this, that *Nature has endowed us with a faculty by which we may know God*; but I have never either said or thought that such ideas had an actual existence, or even that they were a *species* distinct from the faculty of thinking. . . . Although the idea of God is so imprinted on our minds that every person has within himself the faculty of knowing Him, it does not follow that there may not have been various individuals who have passed through life without making this idea a distinct object of apprehension; and, in truth, they who think they have an idea of a plurality of Gods have no idea of God whatever.'

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* Mansel: *The Limits of Demonstrative Science*, 1853, p. 10.

From this it would appear that he did not hold the doctrine of Innate Ideas. But we must venture to dissent from the conclusion drawn by Dugald Stewart on the strength of such a passage; against that passage we will bring another equally explicit (we could bring fifty, if necessary), which asserts the existence of Innate Ideas. 'By the word *idea*,' he says, 'I understand all that can be in our thoughts; and I distinguish three sorts of ideas:—*adventitious*, like the common idea of the sun; *framed* by the mind, such as that which astronomical reasoning gives of the sun; and *innate*, as the idea of God, mind, body, a triangle, and generally *all those which represent true immutable and eternal essences*.' * This last explanation is distinct; and it is all that the serious antagonists of Innate Ideas have ever combated. If Descartes, when pressed by objections, gave different explanations, we may attribute that to the want of a steady conception of the vital importance of Innate Ideas in his system. The fact remains that Innate Ideas form the necessary groundwork of the Cartesian doctrine.

Although the theory of Innate Ideas may, in its Cartesian form, be said to be exploded, it does really continue to be upheld, under a new form. A conviction of the paramount necessity of some such groundwork for metaphysical specution has led to the modern theory of *Necessary Truths*.' This plausible theory has been adopted by Dr. Whewell in his *Philosophy of the Inductive Sciences*; but his arguments have been completely answered by Mr. Mill on the one hand, and by Sir John Herschel on the other.*

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* *Lettres de Descartes*, liv.

The basis of all modern ontological speculations lies in the assumption that we have *ideas independent of experience.* Experience can only tell us of ourselves, or of phenomena; of noumena it can tell us nothing. That we have no ideas independent of experience has been clearly enough established in the best schools of psychology; but the existence of metaphysical speculation proves that the contrary opinion still finds numerous upholders.

The fundamental question then of modern Philosophy was this, Have we any Ideas independent of Experience? And the attempts to solve it will occupy the greater portion of our history. Before entering upon it, we must exhibit the Method of Descartes pushed to its ultimate conclusions in Spinoza.†

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* *System of Logic*, book ii. ch. v.; and *Quarterly Review*, June 1841; indeed, Dr. WHEWELL's arguments had been anticipated and refuted by LOCKE long before. See *Essay*, book iv. ch. 6, 7.

† The best modern works on Descartes, apart from regular Histories of Philosophy, are FRANCISQUE BOUILLIER: *Histoire et Critique de la Révolution Cartésienne*, Paris, 1842; CH. RENOUVIER: *Manuel de la Philos. Moderne*, Paris, 1841; FEUERBACH: *Geschichte der neuern Philosophie*, Leipzig, 1847, and KUNO FISCHER: *Gesch. der neuern Philos.* Bd. i. Heidelberg, 1865. The best edition of Descartes' works is that by VICTOR COUSIN, in eleven vols. 8vo. Paris, 1826. M. JULES SIMON has also published a cheap and convenient edition, in one volume, of the *Discourse on Method*, the *Meditations*, and the *Treatise on the Passions*, Paris, 1844. Both of these have been translated into English (Edinburgh, 1853).

# SECOND EPOCH.

## *The Subjective Method carried to its extreme results in Pantheistic Idealism.*

## CHAPTER I.

### *SPINOZA.*

### § I. His Life.

GREAT among the greatest as a thinker, Spinoza is also one of the most interesting figures in the history of Philosophy—a standing lesson of the injustice of mankind to those who are honest in their opinions when the opinions happen to be unpopular. All men declare it ignoble to pretend to believe that which the mind rejects as false; yet the many are ever ready to make the rejection a crime. You ought not to be a hypocrite; but you ought not to disbelieve what we assure you is the truth. Be honest by all means; only don't think differently from us. If you do, we must suspect your morals. It has always been known that Spinoza was as gentle in his life as he was steadfast in his philosophy; that he lived modest, virtuous, and independent, without blame among men, except for his incorrigible distrust in the wisdom of his elders. It has been known that if he had been an orthodox Jew, or an orthodox Christian, his career would have been held up as a model, and his character canonised; but this knowledge for several generations did not arrest almost universal execration, did not prevent his name becoming a brand of infamy; so that the accusation of Spinozism was another

Descartes

name for atheism, and deliberate yielding of the soul to Satan.

But the temper of opinion has changed. The detested atheist is now commonly spoken of as if he were a saint; the 'devil's ambassador' is listened to as if he were a prophet. Men vie with each other in exaggeration of his merits. It is now acknowledged that he was good, wise, gentle, generous; and only polemical intolerance, or the uneasy vanity which seeks display in paradox, will now deny him these qualities. We owe the change to Lessing and Mendelssohn, whose sincerity and penetration at once discerned in the execrated writings a massive grandeur and a lucid depth, and in the man a moral elevation and serenity, which claimed all honour. Herder, Goethe, Novalis, Schleiermacher, Schelling, Hegel—each had his emphatic protest to utter against the vulgar outcry. France followed: and it would now be deemed as great a mark of ignorance to speak with reprobation of Spinoza as to shudder at the heresy of Galileo. The man whom the pious Malebranche could designate 'a wretch' (*un misérable*), the pious Schleiermacher invoked as a saint;* the man whom the sceptic Bayle called a 'systematic atheist,' the Catholic Novalis named 'a God-intoxicated man.' And yet, although the temper has changed, we may doubt whether Spinoza will not continue to be misunderstood by the majority: 'Les âmes mâles,' says Rousseau, 'ont un idiome dont les âmes faibles n'ont pas la grammaire.'

Let us, from the story of his life and the study of his teaching, try to form some opinion of the justice of the hatred he inspired, and of the veneration now felt for him. When scorn for what is base and false is not imperatively commanded by the evidence, admiration becomes a duty. Admiration, provided it be sincere, and not a spurious noisy enthusiasm, partly echo, partly sham, is so noble a feeling, so healthy in its influence on the mind whose guest it becomes, that even for our own sakes we ought to give it hospitality, while on the highest grounds of justice it carries its own credentials. Blind admiration, indeed, is of no benefit; neither is blind scorn. Spinoza needs but to be known to be admired. Hence it was that his affectionate biographer, Jean Colerus, pastor at the Hague, though trembling with a vague horror at the consequences of what Spinoza taught, was so fascinated by the beauty of the life, that he devoted himself to the collection of materials which should be a lasting monument to the goodness and purity of the heretic. Nothing is more certain than that the life was one of blameless purity. Had there been any rumours to the contrary, the hatred of offended Jews and Christians would have surely preserved and magnified them. This negative evidence is stronger even than the positive details. To be famous, to be infamous, and yet give Scandal no morsel for malignant curiosity, is the rare lot of only the rarest natures.

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* MALEBRANCHE: *Méditations Chrétiennes*, ix. 13. SCHLEIERMACHER: *Rede über die Religion*, p. 47.

Baruch Despinosa, or Benedictus de Spinoza,* was born on the 24th November, 1632, in a house on a Burgwal of Amsterdam, behind the Synagogue.† His parents were descendants of Portuguese Jews who had sought refuge in Holland from the merciless Inquisition. His father was an honourable but not wealthy merchant. There were two daughters and one son. This is pretty much all we know of the family. Of Benedict himself as a child we know nothing. Early banished from the home and hearts of his relatives, there were none of those pleasant little traditions concerning the boy which are handed about with pride when the man becomes illustrious.

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* In the Royal Library at Hanover there is a letter from SPINOZA to LEIBNITZ in which he signs himself B. Despinosa. But when he published his Abridgment of Descartes, he wrote his name Spinoza; and this is the spelling adopted in the Excommunication. Such minor variations were little thought of in early days, and even at the present day in France we sometimes see a similar indifference.

† I tried in vain to discover the house. The Dutch, who have suffered the house where the orthodox ERASMUS was born, to become a low gin-shop, are not the people to have been very curious about the birthplace of the heterodox SPINOZA.

The first authentic glimpse we get of him is that he was destined for a theological career. His rabbinical education gave him such opportunities for the display of precocious power that he soon attracted the attention of the great Talmudist, Saul Levi Morteira, who felt in him the interest a teacher feels in a promising pupil. Unhappily for teachers, promising pupils often become troublesome: the very ardour of study and vigour of intellect which carry them beyond their schoolfellows carry them also, and with increased momentum, past those boundaries which Authority has fixed. Thus eagerness becomes dangerous, earnestness heresy, and the hopeful pupil passes into the condition of a hopeless outcast. Young Benedict asked such intelligent questions, listened so appreciatingly to the replies, showed so nimble an understanding, and so much eagerness for light, that we can sympathise with Morteira's bewilderment, half dread, half pride, when the pupil hurried on with logical impetuosity, asking questions inconvenient to answer, and pointing out slight discrepancies in the answers. He was indeed a promising pupil; but of a promise that looked threatening. At fourteen he was a match for a rabbi in the extent and accuracy of biblical learning. At fifteen he puzzled the Synagogue with questions to which satisfactory answers were not forthcoming. Morteira, alarmed, endeavoured to check this inquiring spirit. The attempt was futile. How long the period of disquiet lasted is unknown. Spinoza had made enemies by his freedom; and since he would not hold his tongue, he had to listen to threats mingled with sophistications. Naturally, heterodoxy grew with discussion. At last he felt that he could no longer remain a member of the Synagogue. We can easily imagine the wrath excited by his withdrawal, not only among the rabbis, but among the members of his family circle. We can picture the storming father, weeping and reproachful mother, indignant sisters, one after another and all together, threatening, sneering, expostulating, urging irrelevant arguments: Why should he not believe what his forefathers had believed? What vanity in him to pretend to a wisdom greater than that of the wisest rabbis? What would become of him? What could be his chance of success in life? And the feelings of his family—were they to be disregarded? It was dreadful to think of; wicked, selfish; certain to come to no good.

The arguments of Morteira having failed, we need not ask what chance there was in the 'wild and whirling words' of a family (with its 'feelings' unaccountably disregarded) making any change in his position. Threats were tried and failed. Then a bribe was tried: the suasive influence of money would surely succeed where logic failed? A pension was proposed to him of one thousand florins annually, on the condition of his appearing from time to time in the synagogue, and keeping within his own bosom certain troublesome doubts. The 'bad example' and the 'scandal' would thus be avoided. Nothing was asked of him more than is asked by all Churches, when they are not strong enough to punish, and are weak enough to wish for homage where there is no belief. 'If you are not with us do at least pretend to be with us; give us your countenance, if not your heart.' To some sensitive consciences this is an appalling request. It is like an echo of the tempter's voice. Spinoza had one of these sensitive consciences. He not only would not pretend to believe what he did not believe; he was hurt at the supposition that he could be bribed into hypocrisy.

We can understand how the rage of the rabbis was intensified by this refusal, without, however, believing that they instigated the attempt at assassination which followed. I, for my part, distinctly refuse to believe that. I have never seen any evidence of Jews being morally inferior to Christians; and although fanatics of all sects have shown themselves remarkably indifferent to shedding the blood of opponents, they need, for the sake of their consciences, some form to legalise or legitimise the murder they decree. They cannot look into each other's faces, and propose what each knows will be a murder.

Même aux yeux de l'injuste un injuste est horrible.*

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* Boileau.

The action of public bodies must be public, and must be protected by at least the forms of legality or the sophisms of 'a higher law.'* On these general grounds, therefore, I acquit the rabbis of having instigated the attempt. Far more probable is the supposition that some fanatic, hearing of the scandal about to fall upon his church, should have conceived that he would do the church a service if he arrested the scandal with his knife.

Be that as it may, one evening, on returning from the theatre (according to one account), or from the synagogue (according to another), or, as Mr. Froude suggests, probably coming to his home, which was behind the synagogue, a man rushed on him, and struck at him with a knife. The blow, slanting downwards, only tore his coat and grazed his skin. The fanatic escaped. The torn coat was preserved by Spinoza as a memento of religious amenity.

Shortly after this exhibition of individual fanaticism there was another and more imposing exhibition of corporate indignation in the solemn process of Excommunication. There was a large and agitated crowd in the synagogue when the tabernacle wherein were deposited the Books of the Law was opened; and the light of numerous candles of black wax streamed upon the long beards and beaded eyes of the angry faithful. Morteira, formerly the proud teacher, now the irritated priest, ordered sentence of execution to be passed. The chanter rose and chanted forth in loud lugubrious accents the words of execration and of banishment. The words ran thus:—

'According to what has been decreed in the Council of Angels, and definitely determined in the Assembly of Saints, we reject, and banish, and declare him to be cursed and excommunicated, agreeable to the will of God and the Congregation, by virtue of the Book of the Law, and of the six hundred and thirteen Precepts contained therein. We pronounce the same interdiction used by Joshua with respect to the city of Jericho; the same curse wherewith Elisha cursed those wanton and insolent children, as well as his servant Gehasi; the same Anathema used by Barak with respect to Meros; the same Excommunication used anciently by the members of the Great Council; and which Jehuda, the son of Ezekiel, did likewise thunder against his servant, and with all the curses, anathemas, interdictions, and excommunications which have been fulminated from the time of Moses, our master, to this present day, in the name of *Achthariel*, who is also called *Jah*, the Lord of Hosts; in the name of the great prince *Michael*; in the name of *Metateron*, whose name is like that of his master;[*] in the name of *Sandalphon*, whose ordinary employment consists in presenting flowers and garlands to his master [that is, in offering the prayers of the children of Israel before the throne of God]. Lastly, in that name which contains forty-two letters —namely, in the name of Him who appeared to Moses in the bush; in that name by which Moses opened and divided the waters of the Red Sea; in the name of Him who said, *I am that I am and who shall be*; by the mysterious depths of the great Name; by His Holy Commandments engraved upon the two Tables of the Law. Lastly, in the name of the Lord of Hosts the Tetragrammaton, the God of Israel who sits enthroned upon the cherubim. In the name of the Globes, Wheels, mysterious Beasts, and his ministering Angels. In the name of all the Holy Angels who minister before the Most High. Every son of Israel or daughter of Israel who shall trespass one of the ordinances denounced solemnly. Let him be cursed by the Lord God of Hosts, who sits above the cherubim, whose holy and dreadful name was pronounced by the high-priest in the great day of atonement. Let him be cursed in heaven and earth by the very mouth of the Almighty God. Let him be cursed in the name of the

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* Spinoza has expressed this in the following passage: 'Ita enim hominum naturam constitutam videmus, ut unusquisque (sive rex sive subditus sit) si quid turpe commisit factum suum talibus circumstantiis adornare studeat ut nihil contra justum et decorum commisisse credatur.'—*Tractatus Theolog.-Politicus*, c. xii.

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[†] The letters of the word *Metateron* make up the same number with the word *Schadai*, the Almighty, namely, three hundred and fourteen.

great prince Michael, in the name of Metateron, whose name is like that of his Master. Let him be cursed in the name of *Achthariel Jah*, the Lord of Hosts, cursed by the mouth of the Seraphim and Ofanim and those ministering angels who minister in the presence of God to serve him in all purity and holiness.

'Was he born in *Nisan* (March), a month the direction of which is assigned to *Uriel*, and to the angels of his company, let him be cursed by the mouth of Uriel, and by the mouth of the angels whereof he is the head.

'Was he born in *Ijar* (April), a month the direction of which is assigned to *Zephaniel*, and to the angels of his company, let him be cursed by the mouth of Zephaniel, and by the mouth of the angels whereof he is the head.

'Was he born in *Sivan* (May), a month the direction of which belongs to *Amriel*, let him be cursed, &c.

'Was he born in *Thammus* (June), the direction of which is assigned to *Peniel*, let him be cursed, &c.

'Was he born in *Ab* (July), the direction of which is assigned to *Barkiel*, let him be cursed, &c.

'Was he born in *Elul* (August), the direction of which is assigned to *Periel*, let him be cursed, &c.

'Was he born in *Tishri* (September), the direction of which is assigned to *Zuriel*, let him be cursed, &c.

'Was he born in *Marcheschvan* (October), the direction of which is assigned to *Zachariel*, let him be cursed, &c.

'Was he born in *Kishlev* (November), the direction of which is assigned to *Adoniel*, let him be cursed, &c.

'Was he born in *Tefet* (December), the direction of which is assigned to *Anael*, let him be cursed, &c.

'Was he born in *Schevat* (January), the direction of which is assigned to *Gabriel*, let him be cursed, &c.

'Was he born in *Adar* (February), the direction of which is assigned to *Rumiel*, and to those of his company, let him be cursed by the mouth of Rumiel, and by the mouth of the angels of whom he is the head.

'Let him be cursed by the mouth of the Seven Angels who preside over the seven days of the week, and by the mouth of all the angels who follow them and fight under their banners. Let him be cursed by the Four Angels who preside over the four seasons of the year, and by the mouth of all the angels who follow them and fight under their banners. Let him be cursed by the mouth of the seven principalities. Let him be cursed by the mouth of the princes of the Law, whose name is Crown and Seal. Let him be cursed by the mouth of the strong, powerful, and dreadful God.

'We beseech the great God to confound such a man, and to hasten the day of his destruction. O God, the God of Spirits, depress him under all flesh, extirpate, destroy, exterminate, and annihilate him. The ire of the Lord, the most contagious storms and winds fall upon the head of impious men; the exterminating angels will fall upon them. Cursed be he wherever he turn; his soul shall go out from him in terror. His death be in dire sickness; his spirit shall not pass out and away. God send the sharpest and most violent evils upon him. Let him perish by a burning fever, by a consumption, being dried up by fire within and covered with leprosy and imposthumes without. Let God pursue him till he be entirely rooted out and destroyed; until his own sword shall be pierced through his own breast; and his bow shall be broken. He will be like the straw which is scattered about by the wind. The angel of the Lord will pursue him in darkness, in slippery places, where the paths of the wicked are. His destruction will fall upon him at the time when he does not expect it; he will find himself taken in the snare which he laid in private for others. Being driven from the face of the earth, he will be driven from light into darkness. Oppression and anguish will seize him on every side. His eyes shall see his condemnation. He will drink the cup of the indignation of the Almighty God, whose curses will cover him at his garments. The strength of his skin shall be devoured. The earth will swallow him up. God will extirpate and shut him for ever out of his house. Let God never forgive him his sins. Let the wrath and indignation of the Lord surround him and smoke for ever on his head. Let all the curses contained in the Book of the Law fall upon him. Let God blot him from under the heavens. Let God separate him to his own destruction from all the tribes of Israel, and give him for his lot all the curses contained in the Book of the Law.

'As for you who are still living, serve the Lord your God, who blessed Abraham, Isaac, Jacob, Moses, Aaron, David, Solomon, the prophets of Israel, and so many good men everywhere dispersed among the Gentiles. May it please the great God to shower his blessings upon this whole assembly, and upon all other holy assemblies, and the members thereof, except those that trespass over this Anathema. God keep them under his holy protection. God preserve them in his great mercy, and deliver them from all sorts of misery and oppression. God grant them all a great many years; let him bless and prosper all their undertakings. Lastly, may the great God shortly grant them that Deliverance which they with all the brethren of Israel expect: and be this His gracious Will. *Amen.*' *

While these curses were chanted forth from one side, the thrilling sounds of a trumpet accompanied them at intervals from the other. The black candles were reversed, and made to melt drop by drop into a huge tub filled with blood. This symbol made the spectators shudder, and when the close came, and the lights were all suddenly immersed in the blood, a cry of execration rose from all, and in that darkness rose shouts of 'Amen!' to the curses.

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* The formula of excommunication, contained in a Ritual called 'Kol Bo' (reprinted in Ugolini, tom. xxvii.), but probably never used in full, I have found nowhere in English but in the little work called *An Account of the Life and Writings of Spinoza*, published in London, 1720, which none of the latter writers seem to have known. It contains an abbreviation of the Life by Colerus, and a slight analysis of the *Tractatus Theologico-Politicus*. It has only ninety-six pages of large print, and was published for one shilling. The translation is loose in many places, and the Hebrew names incorrectly spelled. The version I have printed has been revised for me by the erudite Semitic scholar Mr. E. Deutsch. The form of excommunication printed by Vloten in the *Supplementum* is only an abridgment of that quoted in the text; whether this abridgment were made in the paper sent to Spinoza, or whether it were made by the chief Rabbi at the ceremony, is not clear.

Amsterdam, at least the Jewish part of it, was in an uproar; but the young man who had been cursed thus particularly was perhaps not much troubled. Black candles melting in blood, lugubrious chantings of detailed curses, with trumpet accompaniments, might terrify those who believed that God would certainly fulfil all the intentions which Rabbis attributed to him—believed in the wrath and ferocity, the merciless lust of vengeance, which they, personifying their own passions, attributed to the Creator; but such cursings were no more than fetid breath to one whose conceptions of the Creator were of a higher kind, whose faith in the goodness of God, and placid resignation to God's will, was more than a tradition, more than a profession, a deep conviction working through his life.

So much of the outward life we know; of the inward life we know nothing. Kuno Fischer is probably warranted in the assumption that it was to the influence of Descartes that Spinoza owed his emancipation from rabbinical ideas; but we have no evidence on the subject. Nor do we know how he fared when banished from the Jewish community and his family. His isolation was great. Excluded from the society of Jews, he found no refuge in that of Christians; nor had he at first a select circle of sympathising friends to whom he could turn: these came later on. There were, indeed, one or two from whom he might have received sympathy: one of these was Vanden Ende, the physician and philologist, from whom he had learned Latin and (it is conjectured) philosophy, and (as I conjecture) gained that acquaintance with anatomy and physiology which, although never obtruded, is nevertheless discernible in his writings.* Vanden Ende had a daughter who is sometimes said to have taught Spinoza Latin, but as she was only a child of twelve at the date of the Excommunication, 1656, inexorable chronology refuses its countenance to that myth. Whether there is any truth in the story of Spinoza's having been jilted by this Clara Maria for one Kerckrinck, a Hamburgh merchant, who wooed and won her with pearl necklaces (a story which has been elevated into romance by Auerbach), it would be difficult to decide. He himself spoke of the affection he had borne her; but considering that she refused to marry Kerckrinck until he had come over to her religion, we cannot suppose that she would have listened to Spinoza, who had discarded all religious forms. And what shall we say to the suggestion of his Jewish biographer, Philippson, that it was this idea of a Jew marrying a Christian which led him to meditate on Judaism, Christianity, and Religion in the abstract, whence he rose through Love to Philosophy?

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* There are many slight indications scattered through his works, but the best evidence is that he never commits himself by ignorant statements in these matters.

Love seems to have played but a very subordinate part in this thinker's life. He tells us himself that it was another mistress to whom he was devoted. In a fragment entitled 'On the Improvement of the Intellect,' which was his first work, there is this passage, which has biographical significance:—

'Experience having taught me that all the ordinary affairs of life are vain and futile, and that those things which I dreaded were only in themselves good or bad according as they moved my soul, I finally resolved on inquiring if there was anything truly good in itself, and capable of being communicated to man, a good which, everything else being rejected, could fill the soul entirely; whether, in short, that good existed which, if possessed, could give supreme and eternal happiness. I say, *I finally resolved*, because at first it seemed inconsiderate to renounce the good which was certain for a greater good which was uncertain. I pondered on the advantages which accrued from reputation and wealth, all of which I must renounce if I would seriously undertake the search after another object, and which, if happiness chanced to belong to these advantages, I should necessarily see escape me; and if, on the other hand, happiness belongs to other objects, and I sought happiness where it is not to be found, then also should I miss it. I therefore resolved this in my mind: whether it were possible for me to regulate my life according to a new rule, or at any rate ascertain the existence of such a rule, without changing the actual order of my life—a thing which I have often in vain attempted. For those things which most frequently occur in life, and in which men, judging from their acts, think supreme happiness consists, may be reduced to three, *riches*, *honours*, and *pleasures of the senses.** By these three the mind is so occupied it is scarcely able to think of any other good. Pleasures of sense, especially, so absorb the mind that it reposes in them, and thus is prevented from thinking of anything else. But after fruition follows sadness, which, if it does not absorb the mind, at least disturbs and deadens it. The search after riches and honours also occupies the mind, especially when sought for their own sake, as if they constituted happiness. Repentance does not follow riches and honours as it follows sensuous pleasures; on the contrary, the more we possess of them the greater is our pleasure, and consequently the greater our desire to increase them. Honour, or reputation, is a serious impediment, because to attain it we must direct our lives according to the wishes of others, avoiding what the vulgar avoid, seeking what men seek. When, therefore, I saw the obstacles which hindered me from following a rule of conduct different from the ordinary rule, and saw how great was the antagonism between the two, I was forced to inquire which of the two would be most useful to me; for, as I said just now, I seemed to be abandoning the certain for the uncertain. But after meditating thereupon, I found, first, that in giving up the ordinary advantages I really renounced only an uncertain good for another equally uncertain, the latter, however, being only uncertain as to the possibility of my attaining it. After assidious meditation I found that I was only quitting certain evils for a certain good. For I saw I was in the greatest danger, which forced me to seek a remedy, even an uncertain one; as a man in sickness, seeing certain death before him unless something be done, will seize at any remedy, however vague, for in that is all his hope. And, indeed, all those things which the vulgar seek were not only unable to furnish me with a remedy, but were obstacles, because they are frequently the very causes of the ruin of those who possess them, and always of those who are possessed by them. Many are the examples of those who have suffered persecution, nay, death, on account of their wealth, or who, in the hope of gain, have exposed themselves to perils, and paid for their folly with their lives. Nor are there fewer examples of men who, in the pursuit of honours, or in defending them, have become most miserable. Lastly, there are innumerable examples of those who by excess of sensual pleasures have accelerated their death. Hence the evil seems to me to arise from this: that all our happiness and unhappiness depends solely on the quality of the object which we desire. For those things which are not desired arouse neither quarrels nor sorrow if they escape us, nor envy when others possess them, neither fear nor hate, in a word, no commotion of the mind; whereas all those evils belong to our attachment to perishable things, such as those just spoken of. But love of what is eternal and infinite nourishes the mind with joy only, and is never touched with sorrow, and it is *this* good so eminently desirable that all men should seek. Yet it was not without meaning that I said, *to consider the matter seriously*. For although I clearly perceived this in my mind, I could not banish all love of wealth, honours, and sensual pleasures. But I found that so long as my mind was occupied with these thoughts so long was it turned away from passions, and seriously meditated the new rule of life, which was to me a great consolation. For thus I saw that these evils were not incurable; and, although at first these serious moments were rare and brief, yet afterwards, as the *true good* became better known, they became more frequent and more durable, especially when I saw that the acquisition of wealth, glory, and sensual pleasures was fatal so long as these were sought for their own sakes, and not as means to an end. If, indeed, they are sought as means then they have their value and do little hurt; on the contrary, they are very useful towards the proposed end.

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* Spinoza's language is stronger, but to translate more literally would, perhaps, mislead; he says: *Divitias, honorem, atque libidinem.*

'Here let me say what I mean by the *true good*, and what is the *supreme good*. To understand these rightly, it must be noted that *good* and *evil* are only relative, so that one and the same thing may be called good or evil according to its different aspects; and the same of perfection and imperfection. Nothing considered in itself can be called perfect or imperfect; as we shall understand when we see how all things exist according to the external order and according to the certain laws of nature. But as human weakness cannot follow this eternal order by its own thought, and meanwhile man conceives a human nature much surpassing his own, to the height of which nothing seems to prevent his arriving, he is incited to seek the means of arriving at this perfection, and everything which seems to lead there is called by him the *true good*. But the *supreme good* would be for him and others, if possible, to enjoy this higher nature. And what is this? We shall hereafter show that it is the knowledge of the union of the mind with all nature. This then is the end I must seek: to acquire this higher human nature, and use every effort for others to acquire it also; that is to say, it is necessary for my happiness that many others should think with me, so that their intellects and their desires should accord with mine; for which two things are necessary: *first*, to understand Nature so as to be able to acquire this higher human nature; *next*, to form such a society as will admit of the greatest number arriving easily and securely at such perfection. Therefore our tasks are a *moral philosophy* and the *education of children*; and, as health is a not unimportant means for the end we have in view, the whole science of *medicine* must be added: and, as the arts make many difficult things easy, and aid us by saving our labour and time, we must not omit *mechanics*.

But above all must be sought a method of improving the understanding, and as far as possible to correct it from the beginning, so that, warned against error, it may know clearly.'

This passage must not be read as mere oratorical preamble, but as the serious expression of his conviction. His life testifies to its sincerity. What he said, he did; what he wrote in philosophic treatises, he tried to live in philosophic earnestness. He was very poor, and was often tempted—tempted by money, tempted by vanity, tempted by his senses; but these lures were powerless. It was not with him as it is, unhappily, with so many of us who mean to live a noble life, and wish to act up to our best convictions, but who find that the allurements, which are easily vanquished while they remain at a certain distance, become our masters when they press closely on us. Spinoza was a 'God-intoxicated man' not only in the ardours of speculative activity, but in the conflict of daily life, believing in God as an ever-present reality. Amidst temptation he continued steadfast to the divinity of those aspirations which in solitude his soul had seen to be divine. Many men before and since have been poor and obscure, have despised wealth, have been careless of fame, even when they have shown no touch of vaingloriousness in their contempt and noisy independence; but not many have been offered the opulence and glory they despised, and have continued, after the offers, to leave them disregarded and untouched. Many men have written eloquently and sincerely of quitting the perishable things of this world for Truth; but few have shown an equal earnestness in translating this eloquence into conduct. Spinoza was one of the few; and it is well that this should be known, because the deep repugnance which is felt against his speculative opinions arises less from a sense of their falsehood than from a belief that such opinions cannot enter the mind without necessarily dissolving all moral principles. I have no hesitation in avowing that many of Spinoza's conclusions are such as must shock all Christians, and most Theists, that to him even more than to Kant should be applied the epithet of 'all shattering' (*alles zermalmende*), that logically there is but a trivial distinction between his Acosmism, which makes God the one universal being, and Atheism, which makes the cosmos the one universal existence. Observe, I say 'logically' there is but little difference; spiritually, the difference is profound. His Acosmism may *de*note what is scarcely distinguishable from Atheism; it *con*notes something utterly opposed to Atheism; and we know that he exiplicitly and emphatically repudiated Atheism. The horror which many feel at his opinions is entirely due to the rooted prejudice that morality is inseparable from certain special dogmas which, if rejected, leave the man a prey to all animal and ignoble passions. But no one was more rigorous than he in the subjection of all passions and all egoisms to the love of God and obedience to the Divine will. The love of God is everywhere proclaimed the highest good, the noblest aim, the only source of permanent felicity. And when Isaac Orobio accused him of getting rid of all Religion in the escape from superstition, he gravely asked, 'Is it to cast off Religion to acknowledge God as the supreme good, and to love him with singleness of soul, which love must constitute our highest felicity, our most perfect freedom? to believe that the reward of virtue is virtue, and the punishment of ignorance and impotence is ignorance? and that everyone should love his neighbour and obey the laws?'* He denied that true morality has its basis in fear of punishment. To substitute that fear for the love of God, is to show that we love something better than God.

Spinoza shocks those who regard him from an antagonistic standing point. No sooner is the mind disengaged from the trammels of old prejudice than we learn to look on his arguments as on the arguments of Parmenides or Algazel; we ask whether they are true or false, whether they can be taken up into our philosophy, or rejected from it? This is the attitude of Germany. To some extent it is the attitude of France. It will become the attitude of England. For myself I cannot accept Spinoza's system; but I see how it was perfectly compatible with his own pure morality, and do not fear lest it should disturb the morality of anyone who could conscientiously adopt it. We may reject all ontological schemes, and deny the competence of the ontological method; but if we are to employ that method, and put our trust in its conclusions, the results of Spinozism are quite as capable of dovetailing with the needs of a noble life as any other system.

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* 'An quæso, ille omnem religionem exuit, qui Deum summum bonum agnoscendum statuit, eundemque libero animo ut talem amandum? et quod in hoc solo nostra summa felicitas summaque libertas consistit? porro quod præmium virtutis sit ipsa virtus, stultitiæ autem et impotentiæ supplicium sit ipsa stultitia? et denique quod unusquisque proximum suum amare debet et mandatis summæ obedire?'—*Epist.* xlix. p. 294.

And here I may make a remark of general application, namely, that the incalculable importance of morality so presses itself upon consideration at every turn, and necessarily forms so large a part of every thinker's meditations, that no rational system can be constructed which does not conform itself to the highest prevalent conceptions of the moral law. Hence we may observe, as a rule, that in proportion as a speculative system departs from the principles currently accepted in philosophy, it seeks to gain increased support from morality, thus recovering the hold of men's minds in one direction which it has given up in the other. If this be so, it shows how misguided is the anger which assails a new thought from terror at its moral consequences. Our first question should never be, To what will this lead? but, Is this true?

Spinoza gained his livelihood by glass polishing. The rules of the Jewish doctors enjoin the necessity of learning some mechanical art, as well as the Law. It was not enough for a Rabbi to be a scholar, he must also have at command the means of subsistence. Spinoza, fond of optics, had learned the art of polishing lenses; and he acquired a certain celebrity for the excellence of his workmanship, as we see in a letter from Leibnitz. He also relaxed his mind occasionally with employing his pencil. Colerus had a portfolio of portraits by him of several distinguished men; among these was a sketch of Spinoza himself, in the dress of Masaniello.

In 1660 we find him living in Rhynsburg, near Leyden; and there among his friends we notice Henry Oldenburg, who had been the Hague consul in London, when Cromwell was Protector. He was also the intimate friend of Robert Boyle, and helped in the foundation of the Royal Society of Great Britain. The very first paper in the Transactions of that now illustrious society bears his signature. He writes from London to Spinoza in the year 1661, recalling their pleasant discussions on God, thought, extension, the union of the body and soul, and the philosophy of Descartes and Bacon.*

Another friend is Simon de Vries, who was true to him through life, and whose veneration is prettily expressed in that passage of a letter wherein he exclaims, 'Thrice happy is the young man living in the same house with you, who can see you at breakfast and dinner, who can walk with you, and listen to you on the highest subjects.' Upon which Spinoza characteristically replies, 'You need not envy my young inmate, against whom I jealously guard myself, and to whom I earnestly beg that you and other friends will not communicate my opinions until he has grown more ripe for them. At present he is too childish and volatile, impelled rather by curiosity than love of truth. But I hope that he will put aside these faults as he grows older; nay, as far as I can judge of his disposition, I feel sure of this, and on this account I take great pains with him.'† It was this young man that Spinoza instructed in the Cartesian philosophy, and for his use he began the composition of the 'Principles of Descartes geometrically demonstrated;' not for Simon de Vries, as is commonly said. This work was afterwards completed, and an appendix added, in which Spinoza indicated his chief points of divergence from Descartes. It was published by Meyer in 1664, and produced considerable stir among the Cartesians.

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* SPINOZA. *Epist.* i.

† VLOTEN: *Supplementum*, p. 295.

He left Rhynsburg for the Hague, and there among his warm friends was the celebrated and unfortunate Grand Pensioner, Jean de Witt. 'In all Holland,' says Mr. Froude, 'there were none like these two; they had found each other now, and they loved each other as only good men love. From him Spinoza accepted a pension, not a very enormous one—some thirty-five pounds a year; the only thing of the kind he ever did accept. Perhaps because De Witt was the only person he had met who exactly understood what it was, and weighed such favours at their exact worth, neither less nor more.'

This interpretation is consistent with all we know of Spinoza. On the death of his father, his two sisters, Rebecca and Miriam, tried to keep him from his inheritance, probably thinking that an excommunicated heretic had no claim on the money of the faithful. He appealed against them in a court of law; gained his cause, and having thus satisfied his sense of justice, gave up the contested property as a free gift, thus saving his sisters from fraud, and himself from an indignity. Later in life his affectionate pupil, Simon de Vries, brought him a thousand florins, entreating him to accept it as a slight payment of the heavy debt the pupil owed the teacher. Spinoza laughingly assured him that he was in no need of money, and that such a sum would turn his head. Simon then made a will, bequeathing the whole of his property to Spinoza, who, on hearing of it, at once set off for Amsterdam to remonstrate against an act so unjust to Simon's brother. His arguments prevailed. The will was destroyed, and the brother finally inherited. Now came a struggle of generosity. The heir protested that he could not accept the property unless he were allowed to settle five hundred florins a year on the disinterested friend; and, after some debate, Spinoza agreed to accept three hundred.

In 1673 Karl Ludwig, the Elector Palatine, anxious to secure so illustrious a thinker, offered him the chair of philosophy at Heidelberg. But whatever allurement there might otherwise have been in such a proposal was destroyed by the intimation that the Elector hoped he would avoid collision with existing creeds. 'I have never had any intention of teaching in public,' replied the philosopher, 'and if I give my time to expounding the first questions of philosophy, I shall perhaps not be able to make any advances in its deeper questions as I desire. Nor do I exactly understand within what limits my philosophy *can* be made to avoid collision with established creeds. Schisms do not arise so much from a genuine love of religion as from the interests and passions, and from that love of contradiction which prompts men to falsify and anathematise even what is true.'* And, therefore, the professorship was declined. Louis XIV. offered him a pension if he would dedicate his next work to him, but received for answer that the philosopher had no intention of dedicating anything to his majesty.

From these examples we may conclude that his acceptance of the pension from De Witt was grounded on a perfect confidence in the motives and the character of his friend. There is often as much generosity in accepting as in conferring an obligation; and as much vanity as independence in its rejection. All depends upon the nature of the existing relations, and the character of the friends.

A little incident, unnoticed by his biographers, but interesting as an indication of the state of opinion in those days, may here be related. If there is an error one might have expected the clear and penetrating intellect of Spinoza to have seen through, it is the error of the Alchemists: but this expectation is grounded on a misconception. Alchemy seems absurd to us because experience has abundantly shown that the processes of the alchemists were futile. In those days it seemed plausible enough; and that which conquered the assent of eminent men was not scientific deduction, but a striking fact. J. F. Schweitzer (known in Europe by his

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* '. . . . Quippe schismata non tam ex ardenti religionis studio oriuntur quam ex vario hominum affectu vel contradicendi studio, quo omnia etsi recte dicta sint, depravare et damnare solent.'—*Epist.* liv. p. 304.

Latinised name of Helvetius) was then physician to the Prince of Orange, and notorious as an antagonist of the alchemists. It was, therefore, their interest to convert him. On the 27th of December, 1666, he received the visit of a stranger, who declined to give his name, but who came, he said, in consequence of the dispute between Helvetius and Kenelm Digby, and was prepared with material proofs of the existence of the philosopher's stone. After a sharp discussion, the stranger handed him an extremely small portion of yellow metallic powder, having the aspect of sulphur, assuring him it would transmute an ounce and a-half of lead into gold. He departed. Helvetius, in the presence of his wife, made the experiment. To his astonishment it succeeded. There was the ingot of gold, which all the goldsmiths and assayers of the Hague pronounced to be pure. He was startled into credulity. The fact mastered him, as striking facts so often master imperfect scepticism. He wrote an account of the whole adventure, and avowed his faith in the alchemy which hitherto he had derided. This made no little stir. Among the rest Spinoza was eager for precise details, and we have a letter from him dated 25th of March, 1667, in which he says, 'Your last letter of the 14th reached me safely, but various causes prevented my replying at once. I spoke to Vossius about the Helvetius affair, and he burst out laughing, wondering how I could occupy myself about such trivialities. But I, disregarding this contempt, went to the goldsmith who had assayed the gold, and whose name is Brechtett. He assured me that, in spite of Vossius, the gold during the fusion increased in weight on some silver being thrown into the crucible; hence, as he firmly believes, this gold which changes silver into gold, must contain something peculiar in itself. Not he alone, but divers other persons who were present at the time, assured me that such was the case. After this I went to Helvetius, who showed me the gold and the crucible still having a little gold attached o its inside, and told me that he had strewn scarcely a uarter of a grain on the molten lead. He added that it was his intention to publish a brief history of the affair. This is what I have been able to learn of the matter.'

The trick which imposed upon Helvetius was adroit, and the knowledge of chemistry was too imperfect, and the nature of experimental evidence too little understood, to suggest the presence of a trick. Spinoza, like the others, seems to have relied upon the purely irrelevant testimony of goldsmiths and bystanders; and on similar testimony spirit-rapping, witchcraft, and other delusions have been credited.

The next, and perhaps the most considerable, event to be recorded in Spinoza's life is the publication in 1670 of the *Tractatus Theologico-Politicus*. It is one of the boldest books ever written; and it was written at a time when boldness was far more perilous than it has been since; when philosophers had to use elaborate precautions in advancing even small heresies, and their skill was shown in insinuating what they could not openly avow. Spinoza had for some time resisted the entreaties of his friends; he foresaw the tumult that his opinions would arouse. Oldenburg writes to him in 1662, urging him to brave the ignorant mob and rely on the sympathy of the learned (a pretty reed to lean on!); and in 1665 he is still more pressing. 'What do you fear? Why hesitate? Begin, and you may be confident of the applause of all real philosophers. I never will believe that you would write anything against the existence and providence of God; and provided that these solid grounds of religion are respected, it is easy to excuse or defend any philosophic opinions.' Yet Oldenburg himself held very different language after publication; and proved that Spinoza's hesitation was well founded. What finally determined him is not known. Most probably a deep sense of the importance of his views at a period of widespread unrest, a period rife with sophisms. Holland was reposing on the laurels she had won in her long and desperate struggle against Spain. Having freed herself from a foreign yoke, she might now have completed her canals, extended her commerce, and enjoyed the amenities of peace, had not theological faction disturbed it.

A land of political freedom, an asylum for persecuted free-thinkers, it was torn by theological strife. The persecuted Jews might flock there from Portugal and Spain; the Protestants of France and Belgium found shelter there; but on their arrival these fugitives witnessed conflicts almost as savage as those from which they fled. Toleration was awarded to political thought; various religions were allowed to erect their churches; but within the pale of the State Church there was the old strife. What Spinoza wished to teach men was the essential nature of Religion, and the political nature of a church. He wished to see a complete separation of the temporal and spiritual powers, giving to the Church a purely political significance in outward observances, and leaving individual conscience free as to opinions. The State has a right to determine ceremonies and observances; but it violates every principle of justice if it attempts to coerce opinions or the expression of opinions. It would be impossible for men to continue to live in society unless each gave up his right of action in deference to the laws established for all. 'The right of action on his individual judgment ceases; but the right of action only, not the right of reasoning and judging.'

I shall have to speak more particularly hereafter of this book, which was everywhere condemned, interdicted, and, above all, 'refuted.' Even free-thinkers were staggered; yet it found some energetic admirers, who printed it under false titles, translated, and abridged it, thus disseminating its ideas. In England an abridgment appeared in 1720, and in 1737 a complete translation. What Spinoza thought of his 'refuters' may be gathered from a passage in one of his letters.* 'The other day I saw the book which the Utrecht professors have been writing against me hanging in a bookseller's window, and from the little I had time to read of it, it seemed not worth reading, much less answering. I let the book and its author alone. Mentally smiling, I thought how the men who are most ignorant are always those most audaciously ready to write.'

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* *Epist.* l. p. 299.

This *Tractate* made Spinoza's house the house of call for lion-hunters. Foreign ministers, foreign philosophers, men who admired him, men who execrated him, and men who were to 'refute him,' came to occupy his leisure with their talk. He conversed very freely with them, sketching all the while, often taking their portraits. Among these visitors we shall only here note Leibnitz, who, although he plagiarised his celebrated philosophical conception of the pre-established harmony from Spinoza, never spoke of him but in terms unworthy of both these great intellects. This much is to be said for Leibnitz, however, that he never thoroughly understood Spinoza, and was shocked at the results of the system he so misconceived. If he never understood the simple Locke, we need not wonder that he failed to penetrate the meaning of Spinoza; that he did fail is conclusively and almost ludicrously shown in the posthumous work published by an admiring disciple,† of which I shall take no further notice. The plagiarism of the pre-established harmony has been placed beyond a doubt. Nevertheless, whether Leibnitz understood or misunderstood Spinoza, one would have been glad of some record of their meeting and conversation.

The murder of De Witt must have been a great shock to Spinoza. It was the only occasion on which he is known to have lost all control over his emotions; and it must have recurred to him with solemn feeling when, on a visit to the great Condé, the report arose that he was a political spy, and the populace surrounded the house where he lived. 'Fear nothing,' he said to his terrified landlord; 'it is easy for me to justify myself. There are those who know the object of my journey. But whatever may arrive, as soon as the mob assembles, I will go out and meet them, even though I share the fate of De Witt.'

Annoyed at being misunderstood on points which seemed to him so clear, he shrank from the publication of his *Ethics*; and accordingly that work only saw the light after his death. He was timid and retiring, ill suited to the world and the world's ways, especially unsuited for conflict. A severe mysticism, like his, was not for vulgar minds. It wanted even the emotion which could commend it to mystical minds. For the peculiarity about him, that which distinguishes him from all other thinkers, is that he was a mystic whose mind moved with geometrical rigour and clearness; and his severe rigour of abstraction and deduction are as repellent to the vague emotional tendencies of the mystical mind as the intense disinterestedness and passionlessness of his system are repellent to the ordinary mind.

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† *Réfutation Inédite de Spinoza. Par Leibnitz. Précédée d'un Mémoire par* M. Foucher de Careil. Paris, 1854.

Let us glance at his private life. Though very poor, from his scanty pittance he had something to spare for the necessities of others. On looking over his papers after his death, it was found that one day his expenses amounted to three halfpence, for a *soupe au lait* and a little butter, with three farthings extra for beer; another day, gruel, with butter and raisins, which cost him twopence halfpenny, sufficed for his epicurism; and as his biographer Colerus says, 'Although often invited to dinner, he preferred the scanty meal that he found at home to dining sumptuously at the expense of another.' In company with a few neighbours, he sat at the chimney corner, smoking his pipe and talking to them of what they could understand, not disturbing their creeds by any obtrusion of his own. No vanity of proselytism made him trouble the convictions of those unfitted to receive new doctrines. When his landlady, feeling, perhaps, that the assurance of so good and great a man was almost equal to the priests, asked him whether he believed she could be saved by her religion, which she knew was not his, he replied, 'Your religion is a good one; you ought not to seek another, nor doubt that yours will procure salvation, provided you add to your piety the tranquil virtues of domestic life.' Nor was this, as some might suppose, the mere evasion of one who chose not to commit himself by exposure of his heretical opinions; it was a part of the solemn earnestness with which he looked at life and accepted faith. Read the fourteenth chapter of the *Theological Political Treatise*, and see how he distinguishes between what is essential and what collateral in religion; how faith in God and love of God, with the consequent love of mankind, are in his eyes the sum of all religion; how, even, regarding religious dogmas, it is not essential that they should be true, so that they be truly believed; and how it by no means follows that those who can give the best reasons for their faith are truly the most faithful, but, on the contrary, those who live most according to justice and charity. He knew his hostess was not wise, but he saw that she was virtuous.

The children all loved him, and for them he would bring one of his lenses to show them the spiders magnified. It was his amusement to watch insects. The sight of spiders fighting would make the tears roll down his cheeks with laughter; a trait which Dugald Stewart thinks 'very decidedly indicates a tendency to insanity;'* and satisfactorily accounts for the horrible doctrines of Spinozism. Hamann sees in it only the sympathy of one web-spinner for another: 'His taste betrays itself in a mode of thought which only insects can thus entangle. Spiders and their admirer Spinoza naturally take to the geometric style of building.'† This is only surpassed by Hegel's interpretation of his consumptive tendency as in harmony with his philosophy, in which all individuality and particularity were resolved into the One Substance.‡

He had been a delicate child, and although at no time positively an invalid, he had always been weakly. The seeds of consumption slowly but inevitably undermined his strength, and on Sunday, 22nd February, 1677, he was so feeble that his kind host and hostess left him reluctantly to attend divine service. He feared that he was sinking. But he entreated them to go to church as usual. On their return he talked with them about the sermon, and ate some broth with a good appetite. After dinner they again went to church, but left the physician by his bedside. On their return all was over. At three o'clock he had expired in the presence of the physician—who paid himself by taking a silver-handled knife and what money lay on the table, and departed.

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* DUGALD STEWART: *Dissertation prefixed to Encyclo. Brit.* Note LL. So readily are accusations made that even this amiable writer thinks it probable that Spinoza learned his irreligious principles from the chief school of Atheism, the Synagogue of Amsterdam, 'where without any breach of charity (!) a large proportion of the more opulent class may be reasonably presumed to belong to the Sadducees.'

† HAMANN: *Schriften*, i. 406.

‡ The play on words cannot be rendered in English: 'diese Schwindsucht übereinstimmend war mit seinem Systeme, in dem auch alle Besonderheit und Einzelheit in der Einen Substanz verschwindet.'

He died in his forty-fifth year, in the maturity of his intellect, but not before he had thoroughly worked out the whole scheme of his philosophy.

## § II. His Doctrines.

Although by its geometrical form Spinoza's system stands as it were apart from every other system, a slender acquaintance with the evolution of philosophy enables us to recognise its affiliations with those that have preceded it. In particular we are aware of this system being only one more expression of the irrepressible yearning after unity which may be recognised in all speculation; it is one more effort to place Pantheism on a demonstrable basis. Had it not been for his method, he would at once have been claimed by the mystics. But his method and his language are so unlike the method and language of mystics that his conclusions startle and repel the very minds which have really most affinity with them; and this also in some degree, because the unsparing rigour of his logic and the unhesitating sincerity with which he follows it bring into prominence ideas which are either overlooked or suppressed by thinkers less rigorous or less sincere.

The fervour and candour of his beautiful and fearless spirit act upon our minds with searching and beneficent effect. His sincerity challenges our own. We cannot meditate on his thoughts and remain in apathetic vagueness. We must push to a conclusion. We must accept his teaching or refute it; and to refute it, we must reinvestigate the pretensions, not of his method only but of Metaphysical Method itself. It is on this ground that he merits the epithet of 'all-shattering.' A serious study of the *Ethics* may thus be a drastic purge clearing the mind of all the humours and vapours of Ontology. It was this to me. I never hoped to find terra firma in the boundless marsh of metaphysics after I had clearly seen the reasons which rejected Spinozism.

An attempt will here be made to exhibit the cardinal points of the doctrine. I cannot pretend, in reasonable limits, to anything like an exhaustive treatment, but only to furnish as it were an introduction. And before doing even this, it will be requisite to glance at the work by which Spinoza is more generally known, the *Tractatus Theologico-Politicus*, and to indicate its relation to modern Rationalism which it has profoundly affected. While the *Ethics* must be acknowledged to have penetrated deeply into German Philosophy, the *Tractatus* may be almost considered as the parent of German Rationalism. The various schools of criticism, as is well known, bring to the interpretation of Scripture principles which greatly alter the significance of many doctrinal points. 1. The stricter interpretation of the text, initiated by Ernesti, Michaelis, and Semler, who sought by the application of *philological* canons to ascertain the meaning which the biblical writers attached to their words, and sought thus to clear away the incrustation of successive depositions of opinion which in the lapse of ages had gradually hidden the original significance. 2. The *rationalistic* interpretation of Eichhorn and Paulus, who explained the miraculous narratives as the naïve, or superstitious, investiture given by the Hebrew mind to real historical events, which were in accordance with the order of nature, and only seemed miraculous because not understood. 3. The *moral* interpretation of the Kantists, who sought to disengage from the mixed contents of the Scriptures the moral element which approves itself to reason. 4. The acute application to the Old Testament of *historical* criticism, by which De Wette and others have endeavoured to demonstrate that the Pentateuch is a compilation of comparatively late origin, and that the subsequent historical books are unreliable. 5. The *mythical* interpretation, which is a result of modern research into the character of early national records and mythologies.

These five methods of interpretation are all more or less anticipated in the critical observations and rules of interpretation embodied in Spinoza's treatise. Wiser than the majority of critics who succeeded him, and who profited by the labours of a century of research, Spinoza saw clearly that the influences which determined so complex a result as the Hebrew Scriptures must themselves be complex, and therefore to attempt an explanation of these writings as the manifestation of a single tendency must issue in failure. In the second, third, and sixth chapters of the *Tractatus*, the rationalistic, philological, and moral methods will be recognised at once; and in the sixth chapter the general unreliability of historical documents and the mythical tendency of the human mind are clearly enunciated. There is room for doubt indeed as to the nature of Spinoza's own view of the Scriptures: two opinions seem to be expressed in different passages: one which regards the Scriptures as containing an exceptional revelation, differing not only in degree but in kind from all other revelations (he speaks of the prophets other nations have possessed), and consequently, although to be interpreted by reason, having a higher source than reason; the other opinion, which regards the Scriptures as exceptional only in so far as they contain a deeper wisdom and a higher morality, in this sense also a revelation, but one differing in degree, not in kind, from other revelations. Had Spinoza's purpose been theological, he would doubtless have avoided any such ambiguity; but his purpose was practical; he dealt with the religion which he found established, and tried to make those who followed it follow it according to reason. The treatise was theological only in a subordinate degree; it was theologico-political—the object was political. He did not want to settle points of theological controversy, he wanted to inculcate principles of liberty and toleration. Read his exposition of the real Catholic faith, towards the close of the fourteenth chapter, and his theological position will be quite clear.

Another apparent anticipation of modern views is seen in those passages in which he speaks of Christ as a higher manifestation of the Divinity than any other member of the human race—as the actual representative of Ideal Humanity.* I say *apparent* anticipation, for his words are susceptible of another interpretation, and it is also possible to understand them as having been uttered from a point of view lying between his actual opinion and the opinion he is controverting as an accommodation to the conviction of his readers. We have, however, in his letter to Oldenburg † an explicit statement of his meaning. Oldenburg told him that people said he concealed his real opinion about Jesus Christ, the Redeemer of the world and sole Mediator for men, as also about the incarnation; upon these points Oldenburg begs him to open his soul frankly. Spinoza replies in this language: 'To show you undisguisedly my opinion on that point, I answer that it is not absolutely necessary to know Christ according to the flesh; but it is very different when we speak of that Son of God, that is to say that Eternal Wisdom manifested in all things, and yet more fully manifested in the human soul, and far above all in Jesus Christ. For without this no one can attain the state of beatitude, since it alone teaches us what is true and what is false, what is good and what is bad. And because this Wisdom, as I have said, was manifested in Jesus Christ in the fullest way therefore his disciples, to whom it was revealed by him, could preach it, and they showed that they could glory in being filled with the spirit of Christ more than other men were. For the rest, when certain churches add that God himself assumed human nature, I have expressly warned the reader that I do not understand what is said; indeed to speak freely, it seems to me as absurd as if they said that a circle had put on the nature of a square.'

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* See especially chaps. i. and ii.

† *Epist.* xxi.

This opinion is one which coincides with the cardinal position in Schleiermacher's system; and with this, and other passages before us in which a divine mission is attributed to Moses, we need not wonder if Schleiermacher and Herder in perfect sincerity claimed Spinoza as a Christian, since in their sense of the word Christianity was as compatible with the Pantheism of Spinoza as it has been with other modifications of Pantheism. The English theologian will probably deny the compatibility of Christianity with any form of Pantheism; for on a rigorous interpretation of Christian theism the two *are* irreconcilable: but in Germany this difficulty is seldom felt, and Spinoza's teaching is accepted by sincere Christians.

There is one more passage in the *Tractatus* which may arrest us for a moment. It is but three lines in the ninth chapter where he speaks of the Kabbalists, whom he designates as 'charlatans,' adding that their folly surpasses description. Spinoza, we are frequently told, 'borrowed his system from the *Kabbala*;' at other times we hear that he 'did nothing but modify the system of Descartes.' Such accusations are singularly rash, and spring as often from a secret desire to depreciate a great man as from the levity of ignorance. I am not acquainted with the doctrines of the *Kabbala*; nor indeed are the most of those who prefer the charge; but if the *Kabbala* contain Spinoza's doctrine, why have not others besides Spinoza rescued it? All Europe venerates Spinoza; who now studies the *Kabbala*? In truth, the charge of borrowing is frivolous; some resemblance there may be, must be, between ideas in the *Kabbala* and ideas in the *Ethics*; a system of philosophy does not stand alone, cut sheer off from all connection with the ideas of other systems;

the same law of organic conformity which makes the whole zoological series one, without preventing the independent individuality of each animal, holds good in the world of thought. We may inquire what resemblances exist, without seeking to break down the barriers of organic independence. Yet this is constantly attempted. First men deny that a doctrine is true, and next they deny that it is new. They seem to fancy that truth can be waved aside by exclaiming: 'Ah! that is borrowed from Aristotle; or that is what Bacon has said.' If Aristotle and Bacon did say it, so much the better; the truth which no one has had a glimmering of before us will rarely be repeated after us. Spinoza profited by the wisdom of his age, and thought the thoughts which others unknown to him had also woven into systems; but if ever there was an original and independent thinker Spinoza was that thinker.

The study of the *Tractatus* requires no peculiar preparation. The book is not attractively written, but is perfectly intelligible. It is otherwise with the *Ethics*; the transparent clearness of the language and the mathematical rigour of the composition only serve to make any initial misconception more misleading. Spinoza uses words in senses which he carefully defines, but he uses words which are generally interpreted in senses removed from those he assigns to them; and consequently a reader not duly warned is apt to disregard the definition, and to read Spinoza as he reads an ordinary writer. This mistake is almost inevitable on the part of those who get his doctrine at second hand. For example, they meet with the familiar word Substance, which in their service generally connotes ideas carefully separated from the idea of God; and this word they find chosen by Spinoza to designate God. In spite of definitions, in spite of etymological and philosophical justifications, in spite of an admission that the *substans*, or underlying reality and ever living existence, must indeed be God, the old connotations exercise an intolerable tyranny, and the coercion of words over thoughts is such that most men find it impossible, and all men find it difficult, to dissociate the idea of Substance from those suggestions of transitory and ignoble phenomena which the word commonly connotes. Hence when Spinoza says that God is the only Substance, he seems to be affirming the crudest atheism. Had he used Greek instead of Latin, and called the substance Noumenon, this association would have been escaped. Whenever you meet with the word Substance in his teaching, substitute for it the phrase 'ground of existence,' and you will remove a diffracting medium which greatly obscures the meaning. God is existence. He alone truly exists. Whatever else may be conceived as existing exists in and through him; it is a manifestation of his being. This also is the language of St. Paul, which is chosen by Spinoza as his epigraph. 'In Him we live and move and have our being.' Is it not curious to note how slight a verbal change will dispel the common charge of atheism, and show that in denying the reality of the transitory world Spinoza affirmed the reality of God as the one fountain of all life.

A second ambiguity lies in the fourth axiom: 'the knowledge of an effect depends on, and implies, the knowledge of its cause.' Interpreted in the ordinary sense, this axiom is absurd; and Mr. Hallam so interpreting it was justified in qualifying it as grounded on a fallacy. 'The relation between cause and effect,' he said, 'is surely something perfectly different from our perfect comprehension of it, or indeed from our having any knowledge of it at all.' But the fallacy does not lie there. The axiom does not affirm that men are incapable of recognising a sequence while ignorant of an antecedent; as if a man receiving a blow in the dark could not recognise the pain (effect of the blow) until he had recognised the striker: it means that a complete and comprehensive knowledge of the effect implies a complete and comprehensive knowledge of the cause, for an effect is a cause realised; and 'things which have nothing in common cannot be understood by means of each other, i.e.

'the conception of one does not involve the conception of the other.' Thus if an effect be different from its cause its conception does not involve the conception of the cause, but if it be the same as the cause, then the conception of the one involves that of the other, *ergo* the more complete our knowledge of the one the more complete our knowledge of the other. Spinoza is rigorously consistent. We may object, *in limine*, to his assumption that we can know anything whatever of cause, beyond the fact of an antecedent group of conditions, and of effect, beyond the fact of a consequent group of conditions; but, granting his postulate, we must accept his conclusions; and very important conclusions are drawn by him from this conception of cause.

With these indications of the necessity of carefully ascertaining the sense in which he uses terms, let us pass to the consideration of the relative position of his system among systems.

The relation of the Finite to the Infinite, the creation to the Creator, has been an eternal problem of ontological research; a problem which no man has solved; and no man can be blamed if he find it insoluble. Three answers have been given at various epochs; and only three seem possible. Every system is an acceptance of one of these answers, under modifications more or less pronounced.

*First Answer*: There are two coeternal principles: Mind and Matter.

*Second Answer*: There is but one eternal principle, the source and reality of all existence. This principle is sometimes conceived as Mind, material phenomena being thoughts—objects in representation, not objects *of* representation; and sometimes as Matter, mental phenomena being cerebral activities.

*Third Answer*: There is but one eternal principle, the source of all existence, but not its reality; the creator of the universe, but apart from it.

The peculiarity of this third answer is its evasion of the primal difficulty—creation—which is thus postulated as a pure act of power working upon no material whatever. God is not conceived as fashioning the universe out of existing elements: this is the old Grecian hypothesis of a prime mover. Nor, on the other hand, is he supposed to have drawn the material from himself: this is the emanation hypothesis; it identifies the universe with God; which is pantheistic. God is conceived as distinct from the universe both in power and in essence; and the mystery of creation is cleared up in the light of omnipotence. A fiat goes forth; the universe is realised. The creative Will condenses Nothing into Matter. The pagans said, *ex nihilo nihil.* The Christian Fathers altered it to *ex nihilo omnia,* and dismissed the difficulty with a reference to omnipotence. They were perfectly aware of the logical contradiction. They acknowledged it to be untenable by reason. It was not meant for reason. Reason was incompetent to solve such problems.

Which of these three answers satisfied Spinoza? The unprepared reader will perhaps be surprised to learn that it was the third, or Christian, answer to which he most nearly approximated, although he modified it in a way which rendered it execrable to Christian theology. He was uneasy under the logical contradiction. He was not the man to say, *credo quia absurdum,* and to flout human reason by opposing its plain requirements. Creation out of nothing was untenable, and he would not pretend to hold it. Nevertheless he saw other difficulties in the other answers. The first separated God from the universe without furnishing a plausible interpretation of the process by which two coeternal principles came into union, or indeed how one could act upon the other. The second answer was equally at fault. As Idealism it ignored the reality of Matter; as Materialism it ignored the reality of Mind: two primal realities not to be discarded. The evidence for the existence of one was the same as the evidence for the existence of the other; yet one could not be resolved into the other. To disregard either was to violate first principles. Both must be grasped in an energetic synthesis. That synthesis is God: the one principle having Thought and Extension as two eternal and infinite attributes constituting its essence. Thus, given the one supreme principle, Existence, we see its necessary duplicate manifestation, as Mind, under one aspect, and under the other as Matter. This is the meaning of creation. This is the explanation of the difficulty. Creation is not the calling into existence of that which had no being out of that which has no being; nor is it the refashioning of elements which have independent being; it is the outflowing of primal energy, the activity necessary to a self-caused and self-causing existence. This universe considered as a moment in the universal life is truly a creation. From God it came, and in God it exists, not in alien difference, but in vital unity. From God all flows out, and to him all returns. Everything is a form of that which ever is. God is, and is not, Nature; identical, but not the same; he is no more to be confounded with nature than the fountain with the rivulet, eternity with time. God is *natura naturans*, Nature is *natura naturata*. The one is the energy, the other the act.

A similar line of argument solves the problem of the union of Soul with Body. By one school these words are taken as representatives of two distinct essences, irreconcilable in their nature, yet mysteriously accordant in their existence. By another school the two are resolved into one, either as Idealism, denying substantive reality to Body, which is admitted only as an act of Thought; or as Materialism, denying substantive reality to Mind, which is admitted only as one of the phenomena of body. Spinoza affirms the equal reality of both, and their distinction in a higher synthesis. They are not substances at all, but the two correlated attributes which constitute the essence of substance. Man is but a mode of the Divine Existence: his mind a spark of the Divine Flame; his body a mode of the Infinite Extension.

One more remark is needful as a preparation to the study of this system. The aim of philosophy is doubtless the solution of problems, but it is also the working out of theorems: the problem, when solved, furnishes a means of regulating life: Ontology is the introduction to Ethics. Life is to be so regulated that the soul may achieve the highest good; and what is that but the love of God? This love must be founded upon knowledge; perfect knowledge bringing perfect love. And what is perfect knowledge? The harmony of our thoughts with the divine order. We may indeed love God without knowing him clearly; but it is impossible to have clear knowledge without perfect love; and clear knowledge is only to be gained through a method which discloses the divine order. Error and doubt arise from disorder, not from native incompetence. Truth is the harmony between the order of ideas and the order of things. Let a man begin where he ought to begin, and proceed in rigorous deduction unfolding each successive consequence, never letting drop a single link in the chain which unites things, and he will never doubt, for then all his ideas will be clear and distinct, and their order will be the order of things.* . . . Ordo et connexio idearum idem est ac ordo et connexio rerum.†

There are two methods of investigation: the vulgar and the scientific. The one starts from principles which have been accepted without examination, which are not therefore clearly understood. The other starts from principles clearly defined and accurately known. It is the latter only which can lead to true knowledge. Its type is mathematics. It comprehends every object because it understands the immediate cause of the object. Nothing arises except as the necessary sequence of what preceded it, and as the inevitable result of the nature of things. To understand any object, therefore, we must understand its connections. And these are displayed after the mathematical method.

Thus is the form chosen by Spinoza justified by his principles. It is a form, as I said, extremely unlike that of all other mystical philosophies, and by no means attractive to the ordinary mind. But it is eminently consistent. It developes the order of the universe from a few definitions and axioms. These may be given here:—

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* SPINOZA: *De intellect. Emend.* ii. 37.

† *Ethica*, ii. prop. vii.

'DEFINITIONS.

I. By a thing which is its own Cause I understand a thing the essence of which involves existence; or the nature of which can only be considered as existent.

II. A thing finite is that which can be limited (*terminari potest*) by another thing of the same nature, e.g. body is said to be finite because it can always be conceived as larger. So thought is limited by other thoughts. But body does not limit thought, nor thought limit body.

III. By Substance I understand that which exists in itself, and is conceived *per se*: in other words, the conception of which does not require the conception of anything else antecedent to it.

IV. By Attribute I understand that which the mind perceives as constituting the very essence of Substance.

V. By Modes I understand the accidents (*affectiones*) of Substance; or that which is in something else, through which also it is conceived.

VI. By God I understand the Being absolutely infinite, i.e. the Substance consisting of infinite Attributes, each of which expresses an infinite and eternal essence.

*Explanation:* I say absolutely infinite, but not infinite *suo genere*; for to whatever is infinite only *suo genere*, we can deny infinite Attributes; but that which is absolutely infinite includes in its essence everything which implies essence, and involves no negation.

VII. That thing is said to be free which exists by the sole necessity of its nature, and by itself alone is determined to action. But that thing is necessary, or rather constrained, which owes its existence to another, and acts according to certain and determinate causes.

VIII. By Eternity I understand Existence itself, in as far as it is conceived necessarily to follow from the sole definition of an eternal thing.

These are the Definitions: they need not long be dwelt on, although frequently referred to by him; above all, no objection ought to be raised against them, as unusual, for they are the meanings of various terms in constant use with Spinoza, and he has a right to use them as he pleases, provided he does not afterwards depart from this use, which he is careful not to do. We now come to the seven

### AXIOMS.

I. Everything which is is in itself, or in some other thing.

II. That which cannot be conceived through another (*per aliud*) must be conceived through itself (*per se*).

III. From a given determinate cause the effect necessarily follows; and *vice versâ*, if no determinate cause be given, no effect can follow.

IV. The knowledge of an effect depends on the knowledge of the cause, and implies it.

V. Things that have nothing in common with each other cannot be understood by means of each other, i.e. the conception of one does not involve the conception of the other.

VI. A true idea must agree with its object (*idea vera debet cum suo ideato convenire*).

VII. Whatever can be clearly conceived as non-existent, does not, in its essence, involve existence.

To these succeed the propositions, of which only the first eight need be given here:—

Prop. I. Substance is prior in nature to its accidents.

*Demonstration.* Per Definitions 3 and 5.

Prop. II. Two Substances, having different Attributes, have nothing in common with each other.

*Demonst.* This follows from Def. 3; for each Substance must be conceived in itself and through itself; in other words, the conception of one does not involve the conception of the other.

Prop. III. Of things which have nothing in common, one cannot be the cause of the other.

*Demonst.* If they have nothing in common then (per Axiom 5) they cannot be conceived by means of each other; *ergo* (per Axiom 4) one cannot be the cause of the other. Q. E. D.

Prop. IV. Two or more distinct things are distinguished among themselves either through the diversity of their Attributes or through the diversity of their Modes.

*Demonst.* Everything which is is in itself or in some other thing (per Axiom 1), that is (per Def. 3 and 5), there is nothing out of ourselves (*extra intellectum*) but Substance and its Modes. There is nothing out of ourselves whereby things can be distinguished amongst one another, except Substances, or (which is the same thing, per Def. 4) their Attributes and Modes.

Prop. V. It is impossible that there should be two or more Substances of the same nature, or of the same Attribute.

*Demonst.* If there are many different Substances, they must be distinguished by the diversity of their Attributes or of their Modes (per Prop. 4). If only by the diversity of their Attributes, it is thereby conceded that there is nevertheless only one Substance of the same Attributes; but if by the diversity of their Modes it follows that Substance being prior in nature to its modes, it must be considered independently of them; that is (per Def. 3 and 6), cannot be conceived as distinguished from another; that is (per Prop. 4), there cannot be many Substances, but only one Substance. Q. E. D.

Prop. VI. One Substance cannot be created by another Substance.

*Demonst.* There cannot be two Substances with the same

Attributes (per Prop. 5); i.e. (per Prop. 2) having anything in common with each other; and therefore (per Prop. 3) one cannot be the cause of the other.

*Corollary.* Hence it follows that Substance cannot be created by anything else. For there is nothing in existence except Substance and its Modes (per Axiom 1, and Def. 3 and 5); now this Substance, not being created by another, is self-caused.

*Corollary* 2. This proposition is more easily to be demonstrated by the absurdity of its contradiction;—for if Substance can be created by anything else, the conception of it would depend on the conception of the cause (per Axiom 4), and hence (per Def. 3) it would not be Substance.

Prop. VII. It pertains to the nature of Substance to exist.

*Demonst.* Substance cannot be created by anything else (per Coroll. Prop. 6), and is therefore the cause of itself; i.e. (per Def. 1) its essence necessarily involves existence; or it pertains to the nature of Substance to exist. Q. E. D.

Prop. VIII. All Substance is necessarily infinite.

*Demonst.* There exists but one Substance of the same Attribute; and it must either exist as infinite or as finite. But not as finite, for (per Def. 2) as finite it must be limited by another Substance of the same nature, and in that case there would be two Substances of the same Attribute, which (per Prop. 5) is absurd. Substance therefore is infinite. Q. E. D.

*Scholium.*—I do not doubt that to all who judge confusedly of things, and are not wont to inquire into first causes, it will be difficult to understand the demonstration of Prop. 7, because they do not sufficiently distinguish between the modifications of Substance and Substance itself, and are ignorant of the manner in which things are produced. Hence it follows that, seeing natural things have a commencement, they attribute a commencement to Substances; for he who knows not the true causes of things confounds all things, and sees no reason why trees should not talk like men; or why men should not be formed from stones as well as from seeds; or why all forms cannot be changed into all other forms. So, also, those who confound the divine nature with the human naturally attribute human affections to God, especially as they are ignorant how these affections are produced in the mind. But if men attended to the nature of Substance, they would not in the least doubt the truth of Prop. 7; nay, this proposition would be an axiom to all, and would be numbered among common notions. For by Substance they would understand that which exists in itself, and is conceived through itself; i.e. the knowledge of which does not require the knowledge of anything antecedent to it. But by modification they would understand that which is in another thing, the conception of which is formed through the conception of the thing in which it is, or to which it belongs: we can therefore have correct ideas of non-existent modifications, because, although out of the understanding they have no reality, yet their essence is so comprehended in that of another that they can be conceived through this other. The truth of Substance (out of the understanding) lies nowhere but in itself, because it is conceived *per se*. If therefore anyone says that he has a distinct and clear idea of Substance, and yet doubts whether such a Substance exist, this is as much as to say that he has a true idea, and nevertheless doubts whether it be not false (as a little attention sufficiently manifests); or, if any man affirms Substance to be created, he at the same time affirms that a true idea has become false; than which nothing can be more absurd. Hence it is necessarily confessed that the existence of Substance, as well as its essence, is an eternal truth. And hence we must conclude that there is only one Substance possessing the same Attribute; a position which requires here a fuller development. I note therefore—

1. That the correct definition of a thing includes and expresses nothing but the nature of the thing defined. From which it follows—

2. That no definition includes or expresses a distinct number of individuals, because it expresses nothing but the nature of the thing defined; e.g. the definition of a triangle expresses no more than the nature of a triangle, and not any fixed number of triangles.

3. There must necessarily be a distinct cause for the existence of every existing thing.

4. This cause, by reason of which anything exists, must be either contained in the nature and definition of the existing thing (viz. that it pertains to its nature to exist) or else must lie beyond it—must be something different from it.

From these positions it follows that, if a certain number of individuals exist, there must necessarily be a cause why that number exists, and not a larger or smaller number: e. g. if in the world twenty men exist (whom, for greater perspicuity, I suppose to exist at once, no more having previously existed), it will not be sufficient, in order to show the reason why twenty men exist, to point to human nature as the cause, but it will further be necessary to show why only twenty men exist, since (per note 3) there must be a cause for the existence of everything. This cause however (per notes 2 and 3) cannot be contained in human nature itself; for the true definition of man does not involve the number twenty. Hence (per note 4) the cause why twenty men exist, and why each individual exists, must lie beyond each of them; and therefore must we absolutely conclude that everything, the nature of which admits of many individuals, must necessarily have an external cause. As therefore it pertains to the nature of Substance to exist so must its definition include a necessary existence, and consequently from its sole definition we must conclude its existence. But as from its definition, as already shown in notes 2 and 3, it is not possible to conclude the existence of many Substances *ergo* it necessarily follows that only *one* Substance of the same nature can exist.'

In this style of unimpassioned deduction he proceeds, adding link to link in the chain of demonstration, evolving a system of Theology, Psychology, and Ethics, which alternately impresses the reader with its symmetry and sublimity, and distresses him with its pitiless destruction of long-cherished beliefs, now rousing his enthusiasm for its lofty disinterestedness, now repelling him by its disregard of his personality and his hopes. God is the ever-present reality; man but a foam-bubble reflecting the transitory gleams of a diviner light. Love and resignation are the guiding ideas; and yet they lead to conclusions which alarm the reader. Unable to see where the defect in the argument lies, he is irritated at the pedantic rigour which forces his reluctant assent. No wonder if he brand Spinoza as an atheist, who sweeps away the only firm support of morality—a responsible personality. No wonder if he reject a system which resolves his personality into a mere mode of the Infinite; which dissolves in the acid of causality every shred of organic independence; which makes liberty impossible, and, depriving even God of understanding and will, sweeps the world clear of all purpose, good or evil. This is not the conception of God, or of the world, which he finds tolerable. He rises angrily against the conception of a world of unalterable sequences, where everything is determined by *conditions*, nothing by *purposes*: a system of results, not of aims. He is impatient of the logic which proves that phenomena are not brought about by a conscious intention, but are the simple sequences of God's nature.

He is called upon to renounce his own conception of a sublime Fatherhood, an Infinite Personality—greater than man by all the incommensurable difference of infinite and finite, yet like man by all the resemblance of creator and creature—in favour of a God whose essence is impersonality, who is the one Indeterminate, the Unconditioned, to whom individuality, personality, and conditions, cannot be applied without contradiction, and consequently to whom even intellect and will cannot belong, there being no analogy between the nature of God and the nature of man. Spinoza is explicit: Although he makes Thought one of the constituent attributes of God, he denies that intellect or will can pertain to the Infinite, if by these words we mean powers similar to those in man; in God these no more resemble what we so name in man than the dog-star resembles a dog.*

If this be so, how can there be purposes in creation, i.e. final causes? With the disappearance of the intellect disappears the faculty of conceiving purposes; with the disappearance of the will disappears the power of acting in subordination to a purpose. God as existence and perfection is necessarily without aims. Men act with a purpose; and think they act in freedom, because they are conscious of desires, but not of the causes which determine these desires. A stone whirling through the air, and imagining itself to be flying, is an image of man acting and believing himself free.

I will here quote the famous Appendix on Final Causes which concludes the first book of the *Ethics*.

'Men do all things for the sake of an end, namely, the good, or useful, which they desire. Hence it comes that they always seek to know only the final causes of things which have taken place, and when they have heard these, they are satisfied, not having within themselves any ground for further doubt. But if they are unable to learn these final causes from some one else, nothing remains to them but to turn in upon themselves, and to reflect on the ends by which they are themselves wont to be determined to similar actions; and thus they necessarily judge of the mind of another by their own. Further, as within themselves and out of themselves they discover many means which are highly conducive to the pursuit of their own advantage—for example, eyes to see with, teeth to masticate with, vegetables and animals for food, the sun to give them light, the sea to nourish fish, &c. —so they come to consider all natural things as means for their benefit: and because they are aware that these things have been found, and not prepared by them, they have been led to believe that some one else has adapted these means to their use. For after considering things in the light of *means*, they could not believe these things to have made themselves, but arguing from their own practice of preparing means for their use, they must conclude that there is some ruler or rulers of nature endowed with human freedom, who have provided all these things for them, and have made them all for the use of men. Moreover, since they have never heard anything of the mind of those rulers, they must necessarily judge of this mind also by their own; and hence they have argued that the gods direct all things for the advantage of man, in order that they may subdue him to themselves, and be held in the highest honour by him. Hence each has devised, according to his character, a different mode of worshipping God, in order that God might love him more than others, and might direct all nature to the advantage of his blind cupidity and insatiable avarice. Thus this prejudice has converted itself into superstition, and has struck deep root into men's minds; and this has been the cause why men in general have eagerly striven to explain the final causes of all things. But while they have sought to show that Nature does nothing in vain (i.e. which is not fit for the use of men), they seem to me to have shown nothing else than that Nature and the gods are as foolish as men. And observe, I pray you, to what a point this opinion has brought them. Together with the many useful things in nature, they necessarily found not a few injurious things, namely, tempests, earthquakes, diseases, &c.; these they supposed happened because the gods were angry on account of offences committed against them by men, or because of faults incurred in their worship; and although experience every day protests, and shows by infinite examples that benefits and injuries happen indifferently to pious and ungodly persons, they do not therefore renounce their inveterate prejudice. For it was easier to them to class these phenomena among other things, the cause of which was unknown to them, and thus retain their present and innate condition of ignorance, than to destroy all the fabric of their belief, and excogitate a new one.'

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* SPINOZA: *Ethica*, i. prop. xvii. schol.

I have thus presented the two aspects of Spinoza's doctrine, neither exaggerating its mystical unction and logical rigour nor softening its harsh angles of heterodox offence. The mysticism and logic are so little to the taste of mankind in general, and the heterodoxy is so exasperating, that it is intelligible how the majority, even of charitable readers, misconceived the spirit of the doctrine, and stood aghast at its conclusions. The wonder is that many Christian thinkers could have seen through such husks, and detected the wholesome grain within. It is not often that theological and philosophical outcries are so excusable. The tumult and the wrath excited by Spinozism were indeed unreasoning. Men's minds flew off at a tangent on the first alarm, and instead of patiently following out Spinoza's thought in his own calm spirit of research, they followed it out in their hot illogical way, first thrusting conclusions upon him which he would have repudiated, and then yelling in horror at him for teaching these conclusions. But let us be just. It was only on a patient and comprehensive study that men could learn what Spinoza really taught; and this patient study they were too angry to give. Besides, the study was laborious, and vituperation was easy. If the temper of the philosophic world has changed, and a more impartial consideration has led to a loving admiration, even where accompanied with profound dissent, this very impartiality is a result of the increased liberty, which he was instrumental in developing. Whatever may be thought of his system, we must admit that from the first a strengthening and liberalising influence has rayed out from it, affecting even angry antagonists. There was something in the noble calmness and unaggressive fearlessness of his attitude which acted like a mental tonic. There was also the incidental flash of light falling on many ancient prejudices. There was the unswerving conviction in the force of truth, and in the universality of law. There was the constant exhibition of the relativity of knowledge.

Finally, there was the disinterestedness and purity of his moral views, and the quiet beauty of his own life, to answer the vulgar accusations against free thought as destructive of morality.

We find few expressions of this influence during the first years of controversy, but I do not think the influence was inoperative even then. It was, indeed, for the most part unconscious. Men thought him a monster, and said so. It was a period of theological ferment. The speculative unrest which had produced the Reformation was far from having been stilled by the Reformation. The orthodox party had, indeed, proclaimed finality. It proclaimed liberty of private judgment; but it restricted that liberty within very narrow and very arbitrary limits. Every man might read the Scriptures; but no man might read in them more than the orthodox reformers read. Comprehensive liberty was denounced as anarchy. In vain. The human mind alternately longs for, and rejects, finality. In spite of ecclesiastical thunders the movement of mind could not be arrested. Anarchists were numerous, and violent because violently opposed. While orthodoxy was on the alert to scent atheism from afar, and authority branded small heresies with the largest letters, free-thinking works became more and more numerous and noisy. The seventeenth and eighteenth centuries are specially distinguished by their free-thinking literature. The question was frequently discussed whether Atheism or Superstition were the most noxious to society,* and Atheism became the false but significant synonym of religio-eruditorum. The theological journals of the time had a special rubric under which they noticed atheistical works. But we must not too hastily conclude that many atheistical works existed: for if men denied the existence of the Devil, or even of Ghosts, they found themselves classed among the atheists.

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* Pritius: *Dissertatio de Atheismo in se fœdo et humano genere noxio*; 1695. Grapius: *Dissert. an Atheismus necessario ducat ad corruptionem morum*; 1697. Elswich: *Disputatio de controversiis novis circa Atheismum*—cited in Hettner: *Litteraturgeschichte des 18. Jahrhunderts*; dritter Theil, i. 42.

In a society thus alert for atheism, and the alarms of atheism, Spinoza's writings must have fallen like bombshells. But I note one remarkable fact: He has neither disciples, nor searching antagonists. There are many who adopt some of his conclusions, but no one takes up his doctrine as a system, preaching it, applying it, developing it. There are hundreds who write refutations, and thousands who denounce him with bitter and scornful contempt; but no one, not even Leibnitz himself, grapples with the system and overthrows it, or even shakes it. Fierce blows have often been aimed at it; but they have beaten the air, not touched the system. A recent Dutch antagonist, Van der Linde, has indicated several insurgent thinkers, who, in Holland, adopted the principles of the *Tractatus* with more or less fervor; * and the pietist, Edelmann, in Germany, may be named along with these. But neither in Holland, nor in Germany has there been a Spinozist, as there have been Cartesians, Kantists, and Hegelians, although German philosophy is in some sense saturated with Spinozism, and Hegel says, 'You are much of a Spinozist, or you have no standing whatever in philosophy.' †

This exceptional position has significance. It implies, I think, that the system contains within it some fundamental defect, which prevents even sympathetic students from taking it up into the framework of their daily thoughts, and adopting it as a philosophy. It also implies that the system is so rigorously constructed as only to be overturned by a lever applied to its foundations; and metaphysicians are indisposed to apply the lever *there*. This at any rate is how the case presents itself to me, read by the light of my own experience. On many grounds Spinoza attracted me. I studied him with eagerness and veneration, desirous to find a solution of all difficulties. But in vain. Conscious of a great debt to him, greater, indeed, than to any other metaphysician, I cannot say that I was at any period a disciple. It was a long while before I knew why.

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* Van der Linde: *Spinoza, seine Lehre und deren erste Nachwirkungen in Holland.* 1862, p. 134.

† Hegel: *Gesch. der Philos.* iii. 369. '*Du hast entweder den Spinozismus oder gar keine Philosophie.*'

The fundamental difficulty of Spinozism is the impossibility of Metaphysics, or to speak more precisely, of Ontology. The false Method is the fountain of error. If the Method be allowed, the system must be accepted; if Ontology is a possible science, Spinozism is the most perfect form it has yet received. This will be strenuously denied by metaphysicians; nor can I pause here to argue so large a question. They will add, perhaps, that my denial of Ontology does not wholly meet the case, since other speculators besides Spinoza have employed the same Method, and, nevertheless, have gained disciples; if these disciples have shown alacrity in setting up as masters in their turn, and disowned their allegiance, they have for a time, at least, been disciples. Why has this success been denied to Spinoza? The answer is that it has been denied to him because his doctrine did not, as theirs did, admit of endless misapprehension and equivocation. Had their foundations been exposed, and their superstructures unsupported by flying buttresses, and unconcealed by moving clouds, their tottering architecture would have sheltered none whom Spinoza's visionary fabric left unhoused.

The fundamental mistake of the Metaphysical Method is that it attempts to explain the scheme of the visible from the invisible, deduces the knowable from the unknowable. In Physics we pass, by verified inductions, from the visible to the invisible, from the known to the unknown. The bulk of our facts relates to the invisible, but they are so intimately dependent on the visible, of which, indeed, they are simple deductions, that we feel the same certainty respecting them as respecting any visible fact; they are demonstrable because they are presentable to consciousness under the forms of the known. It is otherwise with Metaphysics, which proceeds on unverified deductions. The ground of knowledge there is placed beyond experience. The ideas of Noumenon, Cause, and unconditioned existence, are the postulates from which the scheme of phenomena is developed. The constructions of the mind are regarded as the models after which Nature works. The external order is sought by analysis of the internal order.

Now there is one science which has a delusive resemblance to this *à priori* evolution of results from abstractions, and in which the process is thoroughly legitimate, and because legitimate effective. It is Mathematics. Spinoza, with a consistency peculiar to himself, has therefore given his system a geometrical form. If the fundamental assumption of Metaphysics be warranted, Spinoza is right. If rigorous deductions from clear ideas be all that is necessary to assure us of truth, the evolution of the concrete universe from a few definitions and axioms, is as valid as the evolution of mathematical results.

But there is this objection to geometrical metaphysics. Geometry is restricted to relations of magnitude. It deals with points, lines, and surfaces, which are capable of external verification; they are also unequivocal and unalterable:—under all varieties of conditions angles preserve their angular relations and their unalterable values. Having once defined a circle or an angle we may proceed in perfect confidence to draw out all the possible relations contained within those figures. Not so in Metaphysics. We have not there to unfold definitions, but to solve problems, and reach definitions by means of our solutions. We have not simple relations of magnitude to deal with, but complex relations of causality. The data are not simple and unequivocal, but complicated and obscure. We have to analyze these into their elements, and by unfolding the order of their arrangement unfold their causal nexus. We are no longer restricted to simple unchangeable relations of quantity, but have to take in the variable relations of quality. Our reliance on deduction is no longer justifiable; our definitions and axioms cease to be comprehensively true; and thus it is that Definitions which are guides in Mathematics are will-o'-wisps in Metaphysics.*

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* On this point, see KANT: *Untersuchungen über die Deutlichkeit der Grundsätze der natürlichen Theologie und der Moral.*

It is enough if the definitions of Mathematics are clear, they have then all the adequacy they claim. We cannot reproach them with leaving relations of quality untouched; they only pretend to embrace relations of quantity. But the definitions of Metaphysics must not only be clear, they must be adequate, comprehensive, exhaustive, for they claim to disclose the reality in its completeness, and the world in its causality.

Are the postulates of Metaphysics clear? Two thousand years of impotence prove their obscurity. Are they adequate? They claim to be; but Spinoza has, implicitly, denied this claim by assigning infinite attributes to existence, yet of these infinite attributes recognising only two as knowable—Thought and Extension. This difficulty he nowhere resolves. Yet surely there is a manifest contradiction in first postulating an infinity of attributes as the constituents of existence, and then proceeding to give an adequate explanation of existence by means of only two out of the infinite attributes? The mathematician may not argue thus. 'Things have a great variety of aspects which together make up the activities of their nature; I can only tell you of their quantitative aspects, but from these you may recognize all their qualitative aspects. I can measure the angles of a salt, and only the angles; from these you may at once deduce its other properties, physical, chemical, and therapeutical. I can only measure the rapidity and sweep of the oscillations of ether; but from these you can deduce the thermal, optical, and chemical effects.' The absurdity would be glaring. The absurdity if less glaring is as great which pretends to deduce from two attributes the infinite results of infinite attributes; or—quitting Spinoza for the ordinary assumption of metaphysicians—to attempt from finite, relative knowledge a construction of the infinite and absolute.

M. Damiron, in a very able essay, denies that the geometrical method can be applied to Metaphysics, because our intelligence cannot form notions so clear and necessary respecting substance, cause, time, good and evil, as respecting points, lines, and surfaces; and whenever such clear notions have been attempted it has only been by sacrificing something of the reality, by the consideration of one aspect to the exclusion of the other.* This is perfectly true if applied to metaphysicians in general; but is not wholly true as applied to Spinoza, whose notions of substánce, cause, etc. are not less clear than his notions of lines and surfaces. Meanwhile let us ask, *why* can we not form notions of cause, substance, and the rest, equalling in certainty our notions of lines and surfaces? The answer to this question dooms Metaphysics to eternal uncertainty: It is because Geometry never quits the sphere of its quantitative relations that its axioms retain their necessary clearness, and its consequences their necessary truth. It begins with lines and surfaces, with lines and surfaces it ends; it is a purely formal and deductive science. Its truths, when objectively applied, include *no other elements* than those *originally* given; when from *ideal* lines and the relations of those lines we pass to *real* lines and relations, we are still strictly within the sphere of lines and their relations; and the mightiest geometry can tell us nothing whatever of any *other* property of substance; it is powerless before any relations except those of magnitudes. Although we find, as a matter of fact, that questions of quantity underlie questions of quality, so that mathematics thus becomes an organon of discovery, these results have to be sought in other ways, and have to be verified by other means. We have found that the rapidity and swing of oscillating media determine the differences in tone and colour. But no mathematician could have deduced a tone or a colour from the velocity and sweep of a vibration. Formal Logic does remain within the sphere of its original assumptions, and it rivals geometry in its exactness; but when Logic passes into Metaphysics, it unhappily starts from its subjective sphere, and passes to the objective, pretending to *include* in its circle far more than is given in the original subjective datum, pretending indeed to disclose the *whole nature* of Substance,

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* DAMIRON: *Mémoire sur Spinoza*, p. 19.

Cause, Time, and Space, and not merely *certain relations among our ideas* of these. When, for example, Spinoza passes from his ideal distinction of cause and effect, as when he proves that God must act according to the laws of his own nature, yet without constraint, nothing determining him save his own perfection, it is evident that Spinoza believes the purely subjective definition which he has framed expresses the whole truth of objective reality; he pretends to *know* the nature of God, and to know it through the notions he has framed of cause and effect. To select another example, the fifth proposition, on which so much of Spinoza's system depends: 'It is impossible that there should be two or more Substances of the same nature, or of the same Attribute.' This is subjectively true: as true as a proposition in Euclid; that is to say, it contains no contradiction, it is perfectly coherent with the definitions of Substance and Attribute; but if we pass from *definition*, and look only at actual substances before us—say two minerals—we perceive the definition to be framed from ideas, and not founded on objective reality. The fact is that Substance, as he defines it, is altogether unknown to us; it is removed from all experience and all possible verification. The substances (existences) which we *can* know, do not accord with his proposition.

The mathematician deduces conclusions from abstractions, and these are found to correspond with objective fact to nearly the whole extent of what was originally assumed, namely the relations of magnitudes, and no further. The metaphysician deduces conclusions equally abstract, and it may be that some conclusions will apply to objective fact (as when it is said 'nothing can be and not be at the same moment') but the moment he speaks of Cause, Time, Space, and Substance, his ideas are necessarily indistinct, because he cannot know these as *things*; he can only frame inferences respecting them, and these inferences at every step need *verification*.

This the metaphysician will deny. He believes in the validity of Reason. He maintains the perfect competence of human intellect to know Cause, Time, Space, and Substance;

but he has not the same clear argument Spinoza had, on which to ground this belief. And here we are face to face with the radical assumption which constitutes the initial error and logical perfection of Spinoza's system. He holds and expressly teaches that the *subjective idea* is the actual image or complete expression of the *objective fact*. 'Hoc est, id quod in intellectu objectivè continetur debet necessario in naturâ dari.' The order and connection of ideas is precisely the order and connection of things. In the Scholium to Prop. VIII. we have seen him maintaining that the correct definition of a thing expresses the nature of the thing, and nothing but its nature; which is true in one sense; for unless it express the nature of the thing the definition must be incorrect; but false in another and more important sense; for every definition we can frame only expresses *our* conceptions of the nature of the thing: and thus we may define the nature of the inhabitants of the moon, and adhere to our definitions with the utmost logical rigour, yet all the while be utterly removed from any real knowledge of those inhabitants. The position is logically deducible from Spinoza's conception of the relation between Thought and Extension as the two Attributes of Substance; but it is a position which is emphatically contradicted by all sound Psychology. Nevertheless without it Metaphysics has no basis. Unless clear ideas are to be accepted as the truths of things, and unless every *idea*, which is distinctly conceived by the mind, has its *ideate*, or *object*—metaphysicians are without a fulcrum.

Having thus signalized the fundamental position of Spinoza's doctrine, it is there, if anywhere, that we shall be able to show his fundamental error. On the truth or falsehood of this one assumption must Spinozism stand or fall. Those who agree with us may escape Spinozism; but they escape it by denying the possibility of all Ontology.

This consideration, that the mind is not a passive mirror reflecting the nature of things, but the partial creator of its own forms—that in perception there is nothing but certain changes in the percipient—this consideration, we say, is the destruction of the very basis of metaphysics, for it expressly teaches that the subjective idea is *not* the correlate of the objective fact; yet only upon the belief that our ideas are the perfect and adequate images of external things can metaphysical speculation rest. Misled by the nature of geometry which draws its truths from the mind as the spider draws the web from its bosom, Descartes assumed that metaphysical truths could be attained in the same way. Spinoza had read Bacon's denouncement of this *à priori* Method, though evidently unprepared to see the truth of the protest. It is curious to read his criticism of Bacon: he looks on it as that writer's great error, to have mistaken the knowledge of the first cause and origin of things. 'On the nature of mind, he says, Bacon speaks very confusedly; and while he proves nothing, judges much. For in the first place he supposes that the human intellect, besides the deceptions of the senses, is subject to the deceptions of its own nature, and that it conceives everything according to the analogies of its own nature, and not according to the analogies of the universe: so that it is like an unequal mirror to the rays of things, which mixes the conditions of its own nature with those of external things.'*

Spinoza's aberration is remarkable because he had also seen that in some sense the subjective was not the absolute expression of the objective; as is proved by his celebrated argument for the destruction of final causes, wherein he showed that *order* was a thing of the imagination, as were also right and wrong, useful and hurtful—these being merely such in relation to *us*. Still more striking is his anticipation of Kant in this passage:—'Ex quibus clarè videre est, mensuram, tempus, et numerum, nihil esse præter cogitandi, seu potiùs imaginandi modos;' which should have led him to suspect that the same law of mental forms was also applicable to all other subjects.

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* 'Nam primò supponit quod intellectus humanus, præter fallaciam sensuum, suâ solâ naturâ fallitur, omniaque fingit ex analogiâ suæ naturæ, et non ex analogiâ universi; adeò ut sit instar speculi inæqualis ad radios rerum, qui suam naturam naturæ rerum immiscet.'—*Epist.* ii. *Opera Posthuma*, p. 398.

Spinoza not only proceeds on the supposition that clear ideas are objective truths, but that they carry with them a supreme certainty; they are the formal essences of the objects and require no verification. Hence his conclusion that since every idea must be adequate to the formal essence of its object, being in short the obverse of it, the mind must, in order to follow Nature's example, deduce all its ideas from that one which reproduces the origin and source of nature, so that it may be also the source of all other ideas.*

Clear ideas are distinguished from confused ideas: the second are products of fortuitous bodily movement, the first of pure reason: 'ex pura mente, et non ex fortuitis motibus corporis factæ sint.' And to reduce all these clear ideas under one, we must so arrange them that our mind objectively reproduces that which is formally objective in nature.

Yet he warns us against mistaking abstractions for realities, and Bacon would have applauded what is said about guarding ourselves against confounding what is only in our own minds with what is in things: 'et magnopere cavebimus ne misceamus ea quæ tantum sunt in intellectu cum iis quæ sunt in re.' This is, indeed, the danger of philosophy. We avoid it by Verification which proves the correspondence between object and idea.†

Also in respect of Definitions his warning is raised. 'A definition should explain the intimate essence of a thing, and we must be on our guard lest we substitute a particular property for this essence. If, for example, a circle be defined as a figure in which all the lines from the centre to the circumference are equal, every one sees that this definition in no way explains the essence of a circle but only one of its properties: and although, as I said, this matters little in reference to figures and other *entia rationis*, it is important in reference to real and physical things, because their properties cannot be understood so long as their essence is unknown. If we leave essences out of sight, the necessary concatenation of ideas which should reproduce the concatenation of objects is destroyed.'*

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* 'Porro ex hoc ultimo, quod diximus, scilicet quod idea omnino cum sua essentia formali debeat convenire, patet iterum, ex eo quod, ut mens nostra omnino referat naturæ exemplar, debeat omnes suas ideas producere ab ea quæ refert originem et fontem totius naturæ ut ipsa etiam sit fons ceterarum idearum.'—*De Intell. Emend.* 42.

† On this point compare our *Prolegomena*, ii. § 15.

In arranging our perceptions systematically, he says, we must ascertain first if there is some being which is the cause of all things, and what that being is, so that its objective essence will be also the cause of our ideas, and thus our minds reproduce the order of nature, its essence and union. And this course he follows in the construction of his system. It is the purely ontological process. Had he approached from the psychological side, and first thoroughly investigated the conditions and limits of human knowledge, he would have seen the initial mistake of his Method. Indeed an extension of his own principles might have opened to him a vista of his error. He laid down the canons of truth and error. All inadequate ideas he says are erroneous, and only these. The mind has a variety of such ideas—inadequate, confused, truncated—the origin of which is vague experience, imagination, opinion, as distinguished from reason. The ideas of reason are clear and adequate. It may startle the reader to find among the inadequate confused ideas specified by Spinoza, some which are the peculiar objects of metaphysics, namely Being, Thing, Freedom, and general ideas such as Man, Animal, &c. These are nothing but abstractions arising from the infirmity of thought. We cannot at once embrace many elements of a conception. We cannot hold many particulars steadily and clearly before the mind. Drooping under their weight, and dazzled by their multiplicity, the mind slips away, carrying with it (by abstraction) some one confused general character, in which the particular details are more or less merged. Imagining objects in extreme confusion we resume them under one predicate such as Being, Thing, Genus. Thus all images of particular men or particular horses are confusedly blended in the abstraction

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* *De Intell. Emend.* 95.

Man or Horse. Thus transcendental ideas are formed. They are *notiones universales*, and as such are necessarily obscure, inadequate, ergo erroneous. What wonder then that these notions have been fruitful of controversy, since each man represents the object by that sign which most interests him, and thus the variety of ideas calling themselves universal has been proportionate to the variety of interests. Freedom is an example. It is founded on the supposition of some general Will, or absolute faculty of determining this or that act, i.e. an abstraction from particular acts of volition, as Man is from individual men. The real will is desire, and every act of desire has its special cause, which it necessarily follows as effect. If we abstract from all these particular acts a naked undetermined Will, a Will that is uncaused, it is something removed from reality, 'ens imaginationis,' having no more objective existence than the *lapidity* of stone, the *aureity* of gold, the *animality* of lions and tigers.

If we reject as abstractions, fictions of our infirm thought, such notions as those of *ens*, *aliquid*, freedom, final cause, &c., how can Spinoza ask us to accept his notions of God, Cause, and Substance, as if these also were not abstractions similarly constructed? Are they clearer? Are they more real? Yes, he replies. These are marked out as *notiones communes*, and their validity is seen in their being common to all experience. The *notio communis* is an expression of real existence, because it expresses that which is found common to every individual thing. Our knowledge of things, indeed, is partial, and in so far inadequate; but, if throughout this partial knowledge there runs one common character, we may be sure that this common character expresses a common truth.* There are notions common to all minds; these must be true.

The objection will certainly arise that what are called *notiones universales*—the conceptions Thing, Something, Freedom, Virtue, Animal, Man, &c.—are quite as common to all minds as the *notiones communes*, God, Substance, and Cause.

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* *Ethica*, ii. prop. xxxvii.-xxxviii.

Why then is the one class to be rejected as vague error, and the other accepted as irresistible truth? Spinoza's answer would be that the criterion of truth is clearness and distinctness. A geometrical fallacy. 'He who has a true idea not only knows that he has it but is unable to doubt its truth.' A psychological fallacy. Let us follow his demonstration of it:

'A true idea in us is that which is adequate in God, in so far as he is manifested by the nature of the human mind (by coroll. prop. xi. part ii.). Let us, therefore, suppose that there is in God, so far as he is manifested by the human mind, an adequate idea A. There must be also in God the idea of this idea, which is related to God in the same way as idea A (acc. to prop. xx. the demonstration of which is universal). But the idea A is supposed to belong to God in so far as he is manifested by the human mind; therefore, also the idea of this idea must belong to God in the same way, i. e. this adequate idea of the idea A will be in the same mind which has the adequate idea A; and thus he who has an adequate idea or (by prop. xxxiv. part ii.) who truly knows a thing, must at the same time have an adequate idea or true cognition of his cognition i. e. (as is self evident) he must at the same time have certitude: Q. E. D.

*Schol.* In scholium prop. xxi. I have explained what is the idea of an idea. But it is to be noted that the preceding proposition is sufficiently evident by itself. For no one who has a true idea is ignorant that a true idea involves the highest certitude. To have a true idea signifies nothing else than to know a thing perfectly; nor, indeed, can any one doubt this unless he supposes an idea to be a mute image, like a picture, and not a mode of thought. And I ask who can *know* that he understands a thing unless he first understands it, i.e. who can *know* that he is certain of a thing unless he be first certain of it? Further, what can be clearer and more certain than a true idea, so as to be a criterion of its truth? As light manifests both itself and darkness, so truth is the criterion of itself and of falsehood. And hereby I believe myself to have answered the following objections:

namely, if a true idea is distinguished from a false idea only in so far as it is said to agree with its object, a true idea has no more reality or perfection than a false idea (since they are distinguished solely by an extrinsic mark), and consequently the man who has true ideas would have no more of reality or perfection than he who has false ideas. Further, whence comes it that men have false ideas? And lastly, whence can one certainly know that he has ideas which agree with their objects? . . . Add to this that our mind, in so far as it truly perceives things, is a part of the infinite intellect of God, and thus it is as necessary that clear and distinct ideas of mind are true as that the ideas of God are true.'

A metaphysician may be satisfied with the criterion of inward conviction, and the character of clearness. Positive philosophers may be permitted to decline such a criterion. They cannot accept subjective distinctions as equivalent to objective discrimination: logical analysis as equivalent to physical analysis; and *une manière de voir* as a method of search. They deny the validity of a method which begins by assuming the conclusions at which it is to arrive. If we can ever solve the problems of the invisible and unknown, we must be led up to them through the avenues of the visible and known. Physics must form the prolegomena to Metaphysics. Psychology will teach us to relinquish all vain efforts to transcend our faculties, and no longer waste valuable time in ontological research.

I must not pursue this topic. Enough has been said, perhaps, to indicate what I consider the strength and the weakness of Spinozism. Its strength lies in its consistency. If clear thoughts are adequate and accurate representations of things, if Thought itself is the correlate of Extension, Mind the obverse of Matter, coextensive and cointensive, and human intellect a mode of God's infinite attribute; then, indeed, all the movements of matter will be paralleled by movements of mind, the external order will be identical with the internal order, and whatever we find in the intellect may be concluded to exist in the external world; subjective logic being, as Hegel boldly affirms, identical with objective reality. That is the foundation of Spinozism. We must ask for no proof of so momentous a position. It is antecedent to all proof. To deny it is to deny philosophy. 'With Method,' Spinoza says,* 'it is as with other instruments. Forging iron is only possible when we have a hammer; but to have the hammer we must forge it, which presupposes another instrument, and so on *ad infinitum*. It would be vain to attempt to prove by such reasoning that man had no power to forge iron. In the beginning men used the instruments furnished by nature and with them made a few imperfect things, then other things better and with more ease, and thus gradually perfecting both their works and their instruments they have come to perform wonderful things with little difficulty. In the same way the human understanding in virtue of the power which is in it fashions its intellectual instruments, by means of which it acquires new forces, and so on gradually fortifying itself it advances till supreme wisdom is attained. There exists in us a true idea which resembles an instrument, and which while it is comprehended by the mind, enables us to comprehend the difference which exists between the idea itself and every other perception.'

If no proof is offered of the fundamental position, rigorous proof is offered of all that is evolved from it. Once admit that all clear and distinct ideas are necessarily adequate expressions of objects, and the mathematical deduction proceeds undisturbed. One might indeed advance another system on a similar basis, having equal validity and opposite conclusions. For example, Spinoza generates Motion out of Extension. It would be easier to generate Extension out of Motion; or if not easier, the mere possibility of doing it is enough for my purpose. Again, Spinoza makes Thought the infinite attribute of Substance; thereby giving a soul both to animate and inanimate objects. But with equal or greater validity Thought may be conceived as no general attribute at all, only a special mode of the general attribute of Force. One idea is as clear as the other; which is true? It is because Metaphysics is without a criterion that systems spring up like mushrooms and like mushrooms disappear. The contest is interminable, because no conclusions are verifiable.

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* *De Intellect. Emend.* 30.

In conclusion we may point to Spinozism as the legitimate result of that Subjective Method which Descartes, in spite of his insurgence against Scholasticism, had restored to its ancient place. In vain were metaphysical entities and metaphysical theories banished; their parent, the metaphysical Method, was retained. That process of deduction which, as in Mathematics, from a few axioms constructed a whole universe, could only have been legitimised by an initial verification of the principles and a successive verification of the conclusions. This was not attempted, and could not have been effected, since the premisses and the conclusions embrace objects inaccessible to human powers.

There are other points which might profitably be discussed did our limits admit of it; but enough has been said to show the main direction of Spinoza's speculations and their historical position, as the development of that Method which Descartes had systematized. The application of the Method to cosmical phenomena in the hands of Descartes and his followers, rapidly disclosed its essential unfitness for research; the application to ontological problems, in the hands of Spinoza, led to results so startling and so abhorrent to the general mind, that it called attention to the grounds upon which such conclusions could be based. As I said before there were no Spinozists to carry on the work of their master. The followers of Descartes were quickly silenced by the followers of Newton. Only in Metaphysics could they find a field, and there to this day Descartes is regarded as a master. In the same region Spinoza is also regarded as a master: no one avowedly adopts Spinozism, but German Ontology is thoroughly penetrated by it.*

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* The works on Spinoza are abundant. The best expositions of his doctrine I have seen are in KUNO FISCHER: *Gesch. der neuern Philos.*, and SIGWART: *Der Spinozismus historisch und philos. erläutert.*

## CHAPTER II.

### *THE FIRST CRISIS IN MODERN PHILOSOPHY.*

SPINOZA, by the development of the germs sent forth by Descartes, produced a crisis. He startled men by the conclusions to which he showed that their philosophical premisses irresistibly led; and thus forced them into the dilemma either of rejecting the premisses, or rejecting the validity of Philosophy as then conceived.

If the premisses are correct, and every clear, distinct idea is necessarily true, subjective logic is a key to the mystery of the objective world; the internal order is identical with the external order; and Spinozism is the only creed.

If the premisses are not correct, if the voice of Consciousness is not necessarily the voice of truth, the subjective not always the harmonious correlate of the objective, Metaphysical Philosophy is impotent, because it has its basis in this certitude of Consciousness.

Spinozism or Scepticism? There seemed no third alternative. Nor was there a third alternative, so long as Philosophy persisted in its ontological and absolute claims—persisted in the metaphysical Method, in the search for truths lying beyond the sphere of relativity. A new conception of Philosophy was needed to restore the shattered confidence of philosophers.

This new conception was then slowly growing into the distinctness it has of late assumed. It involved a complete change in the point of view. The relativity of all knowledge was its primary canon. With this necessarily came a complete exclusion of ontological research. The nature and limits of Knowledge became the most urgent topics. Before deciding upon any question relating to Creation, Immortality, or Cause, men saw themselves compelled to decide upon the competence of human faculty to acquire any knowledge whatever of such subjects. If this inquiry should result in disclosing a native incompetence, there would be an end to all disputes on topics thus removed from rational research.

The crisis, therefore, turns upon this fundamental dispute: Can the human mind transcend the sphere of relative knowledge, and, passing from Consciousness to Causes, explore the nature of things *per se?*

The first decomposition of this great question is into the psychological question of the origin of ideas: *Have we or have we not any ideas which are antecedent to, and independent of, Experience?*

The recognition of this question as the primary one, constitutes a new era in History. Several writers have remarked the enormous predominance of psychological inquiries from Spinoza to Fichte; but the reason of this turn in the direction of Philosophy has not, I think, been recognised. The fact is patent; the connection of the predominance of Psychology with the necessary decrease of Ontology required explanation; the more so as Psychology occupied but little attention in the ancient and mediæval schools. I believe that the importance acquired by Psychology, especially in its treatment of the origin and scope of human faculty, was the natural result of the same objective tendency which had given prominence to the Inductive Method. A necessity had arisen for a new course of investigation. The hopeless failures of so many generations suggested that the seekers had begun their search at the wrong end; and that before any issue could be found, a complete revision of the means of search was indispensable. The limits and conditions of the inquiring mind had to be ascertained.

# THIRD EPOCH.

*Philosophy pauses to ascertain the scope and limits of the human mind.*

## CHAPTER I.

### *HOBBES.*

PERHAPS no writer except Spinoza has ever been so uniformly depreciated as Hobbes. From his first appearance until the present day his name has been a bye-word of contempt with the majority of writers; and even by those who have been liberal enough to acknowledge merit in an adversary, he has been treated as a dangerous and shallow thinker. The first person who saw his importance as a political thinker, and had the courage to proclaim it, was James Mill. As long as political and social theories continue to be judged of by their *supposed* consequences, so long will Hobbes be denied a fair hearing. He has roused the *odium theologicum*. It will be long ere that will be appeased.

Faults he had, unquestionably; short-comings, incomplete views; and—as all error is dangerous in proportion to its plausibility—we will say that he was guilty of dangerous errors. Let the faults be noted, but not overstrained; let the short-comings and incomplete views be enlarged and corrected: the errors calmly examined and refuted. We shall be gainers by it; but by inconsiderate contempt, or by vilifying, no good result can be obtained. Impartial minds will rank Hobbes amongst the greatest writers England has produced. He is profound, and he is clear; weighty, strong, and sparkling. His style, as mere style, is in its way as fine as anything in English: it has the clearness as well as the solidity and brilliancy of crystal. Nor is the matter unworthy of the form. It is original, in the sense of having been passed through the alembic of his own brain, even when formerly the property of others. Although little of it would now appear novel, it was novel when he produced it. Haughty, dogmatic, overbearing in manner, he yet loved Truth, and never hesitated to proclaim it. 'Harm I can do none,' he says, in the opening of the *Leviathan*, 'though I err no less than they (i.e. previous writers), for I shall leave men but as they are, in doubt and dispute; but intending not to take any principle upon *trust*, but only to put men in mind of what *they know already*, or may know by their experience, I hope to err less; and when I do, it must proceed from *too hasty concluding*, which I will endeavour as much as I can to avoid.' *

He proclaims that Psychology is a science of observation; that if we would understand the conditions and operations of our minds, we must patiently look inwards and see what passes there. All the reasoning and subtle disputation in the world will not advance us one step, unless we first get a firm basis on fact. 'Man,' he says elsewhere, with his usual causticity, 'has the exclusive privilege of forming general theorems. But this privilege is alloyed by another, that is, by the privilege of absurdity, to which no living creature is subject but man only. And of men those are of all most subject to it, that profess Philosophy.' And the cause of this large endowment of the privilege to philosophers we may read in another passage, where he attributes the difficulty men have in receiving Truth, to their minds being prepossessed by false opinions—they having *prejudged* the question. The passage is as follows:—'When men have once acquiesced in untrue opinions, and registered them as authenticated records in their minds, it is no less impossible to speak intelligibly to such men than to write legibly on a paper already scribbled over.'

Hobbes's position in the History of Philosophy is easily assigned. On the question of the origin of our knowledge he takes a decided stand upon Experience: he is the precursor of modern sensationalists:—

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* *Works*, edited by Sir W. MOLESWORTH, iv. 1.

'Concerning the thoughts of man I will consider them first singly, and afterwards in a train or dependence upon one another. Singly they are every one a *representation* or *appearance* of some quality or other accident of a body without us, which is commonly called an *object*. Which object worketh on the eyes, ears, and other parts of a man's body; and by diversity of working, produceth diversity of appearances.

'The original of them all is that which we call *Sense*, for there is no conception in a man's mind which hath not at first, totally or by parts, been begotten upon the organs of sense. The rest are derived from that original.' *

Here is stated, in the broadest manner, the principle of sensationalism. It is in direct antagonism to the doctrine of Descartes that there are innate ideas; in direct antagonism to the old doctrine of the spirituality of Mind. Theoretically this principle may be insignificant; historically it is important.

Hobbes's language is plain enough, but we will still further quote from him, to obviate any doubt as to his meaning.

'According to the two principal parts of man, I divide his faculties into two sorts—faculties of the *body*, and faculties of the *mind*.

'Since the minute and distinct anatomy of the powers of the body is nothing necessary to the present purpose, I will only sum them up in these three heads,—power *nutritive*, power *generative*, and power *motive*.

'Of the powers of the mind there be two sorts—*cognitive*, *imaginative*, or *conceptive* and *motive*.

'For the understanding of what I mean by the power *cognitive*, we must remember and acknowledge that there be in our minds continually certain *images* or conceptions of the things without us. This *imagery* and *representation* of the qualities of the things without, is that which we call our *conception*, *imagination*, *ideas*, *notice*, or knowledge of them; and the *faculty*, or power by which we are capable of such knowledge, is that I here call *cognitive power*, or *conceptive*, the power of knowing or conceiving.'

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* *Leviathan*, ch. i. In the following exposition we shall sometimes cite from the *Leviathan* and sometimes from the *Human Nature*.

The mind is thus wholly constructed out of sense. Nor must we be deceived by the words faculty and power, as if they meant any activity of the mind—as if they implied that the mind *co-operated* with sense. The last sentence of the foregoing passage is sufficient to clear up this point. He elsewhere says:—'All the qualities called *sensible* are, in the object that causeth them, but so many several *motions* of the matter by which it presseth on our organs diversely. *Neither in us that are pressed are they anything else but divers motions; for motion produceth nothing but motion.*'

Hobbes, therefore, and not Locke, is the precursor of that school of Psychology which flourished in the eighteenth century (principally in France), and which made every operation of the mind proceed out of transformed sensations; which ended, logically enough, in saying that to *think* is to *feel*—*penser c'est sentir*.

It is to Hobbes that the merit is due of a discovery which, though so familiar to us now as to appear self-evident, was yet in truth a most important discovery, and was adopted by Descartes in his *Meditations**—it is that our sensations do not correspond with any external qualities; that what are called sensible qualities are nothing but modifications of the sentient being:—

'Because the image in vision, consisting of colour and shape, is the knowledge we have of the qualities of the object of that sense; it is no hard matter for a man to fall into this opinion that the same colour and shape are the very qualities themselves; and for the same cause that sound and noise are the qualities of the bell or of the air. And this opinion hath been so long received that the contrary must needs appear a great paradox; and yet the introduction of *species visible* and *intelligible* (which is necessary for the maintenance of that opinion) passing to and fro from the object is worse than any paradox, as being a plain impossibility. I shall therefore endeavour to make plain these points:

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* Descartes may possibly have discovered it for himself; but the priority of publication is at any rate due to Hobbes—a fact first noticed, we believe, by Mr. Hallam: *Literature of Europe*, iii. 271.

'That the subject wherein colour and image are inherent, is not the object or thing seen.

'That there is nothing without us (really) which we call an image or colour.

'That the said image or colour is but an apparition unto us of *the motion, agitation, or alteration, which the object worketh in the brain,* or spirits, or some internal substance of the head.

'That as in vision, so also in conceptions that arise from the other senses, the subject of their inference is not the object but the sentient.'

This important principle, which Carneades among the ancients alone seems to have suspected, Hobbes has very clearly and conclusively illustrated.

Sense furnishes us with conceptions; but as there are other operations of the mind besides the conceptive, it remains to be seen how sense can also be the original of them.

And first, of *Imagination.* Mr. Hallam has noticed the acuteness and originality which often characterise Hobbes's remarks; and he instances the opening of the chapter on Imagination in the *Leviathan.* It is worth quoting:—'That when a thing lies still, unless somewhat else stir it, it will lie still for ever, is a truth no one doubts of. But that when a thing is in motion it will eternally be in motion, unless somewhat else stay it, though the reason be the same, namely that nothing can change itself, is not so easily assented to. For men measure not only other men but all other things by themselves; and because they find themselves subject after motion to pain and lassitude, think everything else grows weary of motion and seeks repose of its own accord; little considering whether it be not some other motion wherein that desire of rest, they find in themselves, consisteth.' Imagination Hobbes defines as a 'conception remaining and by little and little decaying from and after the act of sense.' . . . 'Imagination, therefore, is but *decaying sense.*' The reader must not here understand by imagination anything more than the retaining of an *image* of the object, after the object is removed. It is the term used by Hobbes to express what James Mill happily called *Ideation.* Sense, Sensation; ideas, Ideation. Hobbes says, sense, Sensation; images, Imagination.

The materialism of Hobbes does not consist merely in his language (as is the case with some philosophers; Locke, for instance); it lies at the very root of his theory. Thus, he says, we have sensations and we have images—ideas. Whence those images? 'When a body is once in motion it moveth, unless something hinder it, eternally; and whatsoever hindereth it, cannot in an instant, but in time and by degrees quite extinguish it; and as we see in the water, though the wind cease, the waves give not over rolling for a long time after: so also it happeneth in that *motion* which is made in the internal parts of man; then, when he sees, dreams, &c. For after the object is removed, or the eye shut, we still retain an image of the thing seen, though more obscure than when we see it. . . . The decay of sense in men waking is not the decay of the motion made in sense, but an obscuring of it, in such manner as the light of the sun obscureth the light of the stars; which stars do no less exercise their virtue, by which they are visible, in the day than in the night. But because amongst many strokes which our eyes, ears, and other organs receive from external bodies, the predominant only is sensible; therefore the light of the sun being predominant, we are not affected with the action of the stars.' This illustration is very happy; but it only serves to bring out into stronger relief the materialism. He has told us what Imagination is; let us now learn what is Memory. 'This decaying sense, when we would express the thing itself, I mean *fancy* itself, we call *imagination*, as

I have said before; but when we would express the decay, and signify that the sense is fading, old, and past, it is called *memory*. So that imagination and memory are but one thing, which for divers considerations hath divers names.' Mr. Hallam objects to this, and says that it is very evident that imagination and memory are distinguished by something more than their names. Truly, by us; but not by Hobbes: he evidently uses the word imagination in a more generical sense than we use it: he means by it Ideation. Thus he calls dreams 'the imagination of them that sleep.' It is that state of the mind which remains when the objects which agitated it by sensations are removed: the mind is then not so agitated, but neither is it calm; and he compares that state to the gentle rolling of the waves after the wind hath ceased.

Let this be distinctly borne in mind: Hobbes sees nothing in the intellect but what was previously in the sense. Sensations, and the traces which they leave (i. e. images), form the simple elements of all knowledge; the various commixtures of these elements form the various intellectual faculties. Open the third chapter of the *Leviathan*. In it he propounded, as something quite simple and obvious, the very important law of association of ideas.* He states it with great clearness and thorough mastery, though he evidently was quite unaware of its extensive application.

'When a man thinketh,' he says, 'on anything whatsoever, his next thought after is not altogether so casual as it seems to be. Not every thought to every thought succeeds indifferently. But as we have no imagination whereof we have not formerly had sense in whole or in parts, so we have no transition from one imagination to another whereof we never had the like before in our senses. The reason whereof is this: all fancies (i. e. images) are *motions within us, relicts of those made in sense*; and those motions that immediately succeed one another in the sense continue also together after the sense; insomuch as the former coming again to take place and be predominant, the latter followeth by coherence of the matter moved, in such manner as water upon a plain table is drawn which way any one part of it is guided by the finger.'

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* See Sir W. Hamilton: *Dissertation* affixed to *Reid's Works*, p. 898, for a history of this law of association.

The materialism here is distinct enough. He continues, in excellent style:—'This train of thoughts, or mental discourse, is of two sorts. The first is unguided, without design, and inconstant, wherein there is no passionate thought to govern and direct those that follow to itself, as the end and scope of some desire or other passion; in which case the thoughts are said to wander, and seem impertinent one to another as in a dream. Such are commonly the thoughts of men that are not only without company, but also without care of anything; though even then their thoughts are as busy as at other times, but without harmony; as the sound which a lute out of tune would yield to any man; or in tune, to one that could not play. And yet in this wild ranging of the mind, a man may ofttimes perceive the way of it, and the dependence of one thought upon another. For in a discourse of our present civil war, what would seem more impertinent than to ask, as one did, what was the value of a Roman penny? Yet the coherence to me was manifest enough. For the thought of the war introduced the thought of delivering up the King to his enemies; the thought of that brought in the thought of the delivering up of Christ; and that again the thought of the thirty pence, which was the price of that treason; and thence easily followed that malicious question, and all this in a moment of time; for thought is quick.'

'For thought is quick.' This is the simple pregnant comment, justly deemed sufficient. The plain direct remark with which Hobbes concludes the above passage would, in the hands of many moderns, have run somewhat thus:—'How wonderful is thought! how mighty! how mysterious! In its lightning speed it traverses all space, and makes the past present!' Hobbes, with a few simple direct words, produces a greater impression than would all the swelling pomp of a passage bristling with notes of exclamation. This is the secret of his style. It is also the characteristic of his speculations. Whatever faults they may have, they have no vagueness, no pretended profundity. As much of the truth as he has clearly seen he clearly exhibits: what he has not seen he does not pretend to see.

One important deduction from his principles he has drawn: 'Whatsoever we imagine is *finite*. Therefore there is no idea, no conception of anything we call *infinite*. No man can have in his mind an image of infinite magnitude, nor conceive infinite swiftness, infinite time, or infinite power. When we say that anything is infinite, we signify only that we are not able to conceive the ends and bounds of the thing named, having no conception of the thing, but of our own inability. And therefore the name of God is used not to make us conceive him, for he is incomprehensible, and his greatness and power are inconceivable, but that we may honour him. Also because whatsoever we conceive has been perceived first by sense, either all at once or by parts, *a man can have no thought representing anything not subject to Sense*.'

On Hobbes's principles this is irresistible. He assumes that all our *thoughts* must be *images*. So far is this from being true, that not even all our *sensations* are capable of forming images. What images are given by the sensations of heat or cold, of music, or of taste?

Every man's consciousness will assure him that thoughts are not always images. It will also assure him that he has the idea, notion, conception, figment (or whatever name he may give the thought) of Infinity. If he attempts to form an image of it, that image will of course be finite: it would not otherwise be an image. But he can think of it; he can reason of it. It is a *thought*. It is in his mind; though how it got there may be a question which he is not in a condition to answer.

We insist upon Hobbes's materialism, the better to prepare the reader for a correct appreciation of Locke. Hobbes, in the sixth chapter of his *Human Nature*, has very carefully defined what he means by knowledge. 'There is a story somewhere,' he says, 'of one that pretends to have been miraculously cured of blindness, wherewith he was born, by

St. Alban or other saints, at the town of St. Alban's; and that the Duke of Gloucester being there, to be satisfied of the truth of the miracle, asked the man, What colour is this? who, by answering it was green, discovered himself, and was punished for a counterfeit: for though by his sight newly received he might distinguish between green and red and all other colours, as well as any that should interrogate him, yet he could not possibly know at first sight which of them was called green, or red, or by any other name.

'By this we may understand there be *two kinds* of knowledge, whereof the one is nothing else but *sense*, or knowledge *original*, and *remembrance* of the same; the other is called *science*, or knowledge of the *truth*, *of propositions*, and how things are called, and is derived from *understanding*. Both of these sorts are but *experience*; the former being the experience of the effects of things that work upon us from *without*; and the latter experience men have from the proper use of *names* in language: and all experience being, as I have said, but remembrance, all knowledge is remembrance.'

The only ambiguity possible in the above passage is that which might arise from the use of the word *understanding*. This he elsewhere defines as follows:—

'When a man upon the hearing of any speech hath those thoughts which the words of that speech in their connection were ordained and constituted to signify, then he is said to understand it; *understanding* being nothing else but conception formed by speech.'

We must content ourselves with merely alluding to his admirable observations on language, and with quoting, for the hundredth time, his weighty aphorism, 'Words are wise men's counters; they do but reckon by them; but they are the money of fools.'

No attempt is here made to do full justice to Hobbes; no notice can be taken of the speculations which made him famous. Our object has been fulfilled if we have made clear to the reader the position Hobbes occupies in modern psychological speculation.

# CHAPTER II.

## *LOCKE.*

### § I. LIFE OF LOCKE.

JOHN LOCKE, one of the wisest of Englishmen, was born at Wrington, in Somersetshire, on August 29, 1632. Little is known of his family, except that his father had served in the parliamentary wars: a fact not without significance in connection with the steady love of liberty manifested by the son.

His education began at Westminster, where he stayed till he was nineteen or twenty. He was then sent to Oxford. That University was distinguished then, as it has ever been, by its attachment to whatever is old: the Past is its model; the Past has its affection. That there is much good in this veneration for the Past, few will gainsay. Nevertheless, a University which piqued itself on being behind the age, was scarcely the fit place for an original thinker. Locke was ill at ease. The Philosophy upheld there was Scholasticism. On such food a mind like his could not nourish itself. Like his great predecessor Bacon, he imbibed a profound contempt for the University studies, and in after-life regretted that so much of his time should have been wasted on such profitless pursuits. So deeply convinced was he of the vicious method of college education, that he ran into the other extreme, and thought self-education the best. It is true that all great men have been mainly self-taught; all that is most valuable a man must learn for himself, must work out for himself. Locke assumes that all men *will* educate themselves if left to themselves. The fact is, the majority have to be educated by force. For those who, if left to themselves, would never educate themselves, colleges and schools are indispensable.

Locke's notion of an educated man is very characteristic of him. Writing to Lord Peterborough, he says, 'Your Lordship would have your son's tutor a thorough scholar, and I think it not much matter whether he be any scholar or no: if he but understand Latin well and have a general scheme of the sciences, I think that enough. But I would have him well-bred and well-tempered.'

Disgusted with the disputes which usurped the title of Philosophy, Locke principally devoted himself to Medicine while at Oxford. His proficiency is attested by two very different persons, and in two very different ways. Dr. Sydenham, in the Dedication of his *Observations on the History and Cure of Acute Diseases*, boasts of the approbation bestowed on his Method by Mr. John Locke, 'who examined it to the bottom; and who, if we consider his genius and penetrating and exact judgment, has scarce any superior, and few equals now living.' The second testimony is that afforded by Lord Shaftesbury, when Locke first met him. The Earl was suffering from an abscess in the chest. No one could discover the nature of his disorder. Locke at once divined it. The Earl followed his advice, submitted to an operation, and was saved. A close intimacy sprang up between them. Locke accompanied him to London, and resided principally in his house.

His attention was thus turned to politics. His visits to Holland delighted him. 'The blessings which the people there enjoyed under a government peculiarly favourable to civil and religious liberty, amply compensated, in his view, for what their uninviting territory wanted in scenery and climate.'* He also visited France and Germany, making the acquaintance of several distinguished men.

In 1670 he planned his *Essay concerning Human Understanding*. This he did not complete till 1687. In 1675 the delicate state of his health obliged him to travel, and he repaired to the South of France, where he met Lord Pembroke. To him the *Essay* is dedicated. He returned in 1679, and resumed his studies at Oxford. But his friendship for Shaftesbury, and the liberal opinions he was known to hold, drew upon him the displeasure of the Court. He was deprived of his studentship by a very arbitrary act.* Nor did persecution stop there. He was soon forced to quit England, and find refuge at the Hague. There also the anger of the king pursued him, and he was obliged to retreat further into Holland. It was there he published his celebrated *Letter on Toleration*.

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* Dugald Stewart.

He did not return to England till after the Revolution. Then there was security and welcome. He was pressed to accept a high diplomatic office in Germany, but the state of his health prevented him. In 1690 the first edition of his *Essay* appeared. He had indeed already (1688) published an abridgment of it in Leclerc's *Bibliothèque Universelle*. The success of this *Essay* was immense; and Warburton's assertion to the contrary falls to the ground on the mere statement of the number of editions which the work rapidly went through. Six editions within fourteen years,† and in times when books sold more slowly than they sell now, is evidence enough.

The publication of his *Essay* roused great opposition. He soon got involved in the discussions with Stillingfleet, Bishop of Worcester. He was soon after engaged in the political discussions of the day, and published his *Treatise on Government*. It was about this time that he became acquainted with Sir Isaac Newton; and a portion of their very interesting correspondence has been given by Lord King in his *Life of Locke*.

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* MACAULAY: *History of England*, i. 545–6.

† The writer of the article *Locke*, in the *Encyc. Brit.*, says that the fourth edition appeared in 1700. VICTOR COUSIN repeats the statement, and adds that a fifth edition was preparing when death overtook the author; this fifth edition appearing in 1706. We know not on what authority these writers speak: but that they are in error may be seen by turning to LOCKE's *Epistle to the Reader*, the last paragraph of which announces that the edition then issued by Locke himself is the sixth.

Locke's health, though always delicate, had not been disturbed by any imprudences, so that he reached the age of seventy-two—a good ripe age for one who had studied and thought. He expired in the arms of his friend, Lady Masham, on October 28, 1704.

## § II. On the Spirit of Locke's Writings.

It has for many years been the fashion to decry Locke. Indirect sneers at his 'superficiality' abound in the writings of those who, because their thought is so muddy that they cannot see its shallow bottom, fancy they are profound. Locke's 'materialism' is also a favourite subject of condolence with these writers; and they assert that his principles 'lead to atheism.'

Another mode of undervaluing Locke is to assert that he only borrowed and popularised the ideas originated by Hobbes. The late Mr. Hazlitt—an acute thinker, and a metaphysician, but a wilful reckless writer—deliberately asserted that Locke owed everything to Hobbes. Dr. Whewell repeats the charge, though in a more qualified manner. He says, 'Hobbes had already promulgated the main doctrines, which Locke afterwards urged, on the subject of the origin and nature of our knowledge.'

Again, 'Locke owed his authority mainly to the intellectual circumstances of the time. Although a writer of great merit, he by no means possesses such metaphysical acuteness, or such philosophical largeness of view, or such a charm of writing, as to give him the high place he has held in the literature of Europe.'

That Locke did not borrow his ideas from Hobbes will be very apparent in our exposition of Locke; but meanwhile we may quote the testimony of Sir James Mackintosh, one of the best read of our philosophers, and one intimately acquainted with both these thinkers:—

'Locke and Hobbes agree chiefly on those points in which, except the Cartesians, all the speculators of their age were agreed. They differ on the most momentous questions—the sources of knowledge, the power of abstraction, the nature of the will; on the two last of which subjects, Locke, by his very failures themselves, evinces a strong repugnance to the doctrine of Hobbes. They differ not only in their premisses and many of their conclusions, but in their manner of philosophising itself. Locke had no prejudice which could lead him to imbibe doctrines from the enemy of liberty and religion. His style, with all its faults, is that of a man who thinks for himself; and an original style is not usually the vehicle of borrowed opinions.' *

To this passage we will add another from a still more distinguished judge:—

'Few among the great names in philosophy have met with a harder measure of justice from the present generation than Locke, the unquestioned founder of the analytic philosophy of mind, but whose doctrines were first caricatured, then, when the reaction arrived, cast off by the prevailing school even with contumely, and who is now regarded by one of the conflicting parties in philosophy as an apostle of heresy and sophistry; while among those who still adhere to the standard which he raised, there has been a disposition in later times to sacrifice his reputation in favour of Hobbes—a great writer and a great thinker for his time, but inferior to Locke not only in sober judgment, but even in profundity and original genius. Locke, the most candid of philosophers, and one whose speculations bear on every subject the strongest mark of having been wrought out from the materials of his own mind, has been mistaken for an unworthy plagiarist, while Hobbes has been extolled as having anticipated many of his leading doctrines. He did not anticipate many of them, and the present is an instance in what manner it was generally done. [The writer is speaking of Locke's refutation of *Essences*.] They both rejected the scholastic doctrine of Essences, but Locke understood and explained what these supposed essences were. Hobbes, instead of explaining the distinction between essential and accidental properties, and between essential and accidental propositions, jumped over it, and gave a definition which suits, at most, only essential propositions, and scarcely those, as the definition of Proposition in general.' *

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* *Edinburgh Review*, October 1821, p. 242.

Dugald Stewart indeed says 'that it must appear evident Locke had diligently studied the writings of Hobbes;' but Sir J. Mackintosh, as quoted above, has explained why Locke appears to have studied Hobbes; and Stewart is far from implying that Locke therefore gained his principal ideas from Hobbes. Indeed he has an admirable note in which he points out how completely Locke's own was the important principle of *Reflection*. 'This was not merely a step *beyond* Hobbes, but the correction of an error which lies at the very root of Hobbes's system.' †

That Locke never read Hobbes may seem incredible, but is, we are convinced, the truth. It is one among many examples of how few were the books he had read. He never alludes to Hobbes in any way that can be interpreted into having read him. Twice only, we believe, does he allude to him, and then so distantly, and with such impropriety, as to be almost convincing with respect to his ignorance. The first time is in his *Reply to the Bishop of Worcester*, in which he absurdly classes Hobbes and Spinoza together. He says, 'I am not so well read in Hobbes and Spinoza as to be able to say what were their opinions on this matter, but possibly there be those who will think your Lordship's authority of more use than *those justly-decried writers*.' The form of expression, 'I am not so well read,' etc. is obviously equivalent to—I have never read those justly-decried writers. His second allusion is simply this:—'A Hobbist would probably say.' We cannot at present lay our hands on the passage, but it refers to some moral question.

This is only negative evidence. Something like positive evidence however is the fact that Hobbes's doctrine of Association of Ideas—a principle as simple of apprehension as it is important—was completely unknown to Locke, who, in the fourth or fifth edition, added the chapter on Association as it now stands. Moreover, Locke's statement of the law is by no means so satisfactory as that by Hobbes: he had not so thoroughly mastered it; yet, had he read it in Hobbes, he would assuredly have improved on it. That he did not at first introduce it into his work is a strong presumption that he had not then read Hobbes, because the law is so simple and so evident, when stated, that it must produce instantaneous conviction.

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* Mill's *System of Logic*, i. 150.

† *Dissertation on the Progress of Metaph. Philosophy*, p. 235 (Hamilton's ed.). The note is very long and curious.

It is strange that any man should have read Locke, and questioned his originality. There is scarcely a writer we could name whose works bear such an indisputable impress of his having 'raised himself above the almsbasket, and, not content to live lazily on scraps of begged opinions, set his own thoughts to work to find and follow truth.' It is still more strange that any man should have read Locke and questioned his power. The patient sagacity which, above all things, distinguishes a philosopher is more remarkable in Locke than almost any writer. He was also largely endowed with good sense. In these two qualities, and in his homely racy masculine style, we see the type of the English mind, when at its best. The plain directness of his manner, his earnestness without fanaticism, his hearty honest love of truth, and the depth and pertinence of his thoughts, are qualities which, though they do not dazzle the reader, yet win his love and respect. In that volume, you have the honest thoughts of a great honest Englishman. It is the product of a manly mind: clear, truthful, direct. No vague formulas, no rhetorical flights, no base flattery of base prejudices, no assumption of oracular wisdom, no word-jugglery. There are so many writers who cover their inanity with a veil of words, who seem profound because they are obscure, that a plainness like Locke's deceives the careless reader, and leads him to suppose that what is there so plain must have been obvious.

Locke, though a patient cautious thinker, was anything but a timid thinker; and it does great honour to his sagacity that at a time when all scientific men were exclaiming against the danger of hypotheses, believing that the extravagant errors of Schoolmen and alchemists were owing to their use of hypotheses—a time when the great Newton himself could be led into the unphilosophical boast, *hypotheses non fingo*, our wise Locke should exactly appreciate them at their true value. He says:—

'Not that we may not, to explain any phenomena of nature, make use of any probable hypotheses whatsoever. Hypotheses, if they are well made, are at least great helps to memory, and often direct us to new discoveries. But we should not take them up too hastily (which the mind that would always penetrate into the causes of things, and have principles to rest on, is very apt to do) till we have very well examined particulars, and made several experiments in that thing which we would explain by our hypothesis, and see whether it will agree to them all; whether our principles will carry us quite through, and not be as inconsistent with one phenomena of nature as they seem to accommodate and explain another; and, at least, that we take care that the name of principles deceive us not nor impose on us, by making us receive that for an unquestionable truth which is really at best but a very doubtful conjecture: such as are most (I had almost said all) of the hypotheses in natural philosophy.'

Locke could exchange his opinions with ease when he fancied that he saw their error. He readily retracted ideas which he had published in an immature form; 'thinking himself,' as he says, 'more concerned to quit and renounce any opinion of my own than oppose that of another, when truth appears against it.' He had a just and incurable suspicion of all 'great volumes swollen with ambiguous words.' He knew how much jugglery goes on with words; some of it conscious, some of it unconscious, but all pernicious. 'Vague and insignificant forms of speech and abuse of language have for so long passed for mysteries of science; and hard and misapplied words, with little or no meaning, have, by prescription, such a right to be mistaken for deep learning and height of speculation, that it will not be easy to persuade either those who speak or those who hear them that they are but the covers of ignorance and hindrance of true knowledge. To break in upon this sanctuary of vanity and ignorance will be, I suppose, some service to the human understanding.'

Locke had an analytical mind. He desired to understand and to explain things, not to write rhetorically about them. There were mysteries enough which he was contented to let alone; he knew that human faculties were limited, and reverentially submitted to ignorance on all things beyond his reach. But though he bowed down before that which was essentially mysterious, he was anxious not to allow that which was essentially cognisable to be enveloped in mystery. Let that which is a mystery remain undisturbed: let that which is not necessarily a mystery be brought into the light of day. Know the limits of your understanding—*beyond* those limits it is madness to attempt to penetrate; *within* those limits it is folly to let in darkness and mystery: to be incessantly wondering, and always assuming that matters cannot be so plain as they appear, and that something lying deeper courts our attention.

To minds otherwise constituted—to men who love to dwell in the vague regions of speculation, and are only at ease in an intellectual twilight—Locke is naturally a disagreeable teacher. He flatters none of their prejudices; he falls in with none of their tendencies. Mistaking obscurity for depth, they accuse him of being superficial. The owls declare the eagle is blind. They prefer the twilight; he

Wantons in the smile of Jove.

They sneer at his 'shallowness.' So frequent are the sneers and off-hand charges against him that I, who had read in my youth with delight, began to suspect that my admiration had been rash. The proverb says, 'Throw but mud enough, some will be sure to stick.' It was so with Locke. Reiterated depreciation had somewhat defaced his image in my mind. The time came however when, for the purposes of this History, I had to read the *Essay on Human Understanding* once more, carefully, pen in hand. The image of John Locke was again revived within me; this time in more than its former splendour. His modesty, honesty, truthfulness, and directness, I had never doubted; but now the vigour and originality of his mind, the raciness of his colloquial style, the patient analysis by which he has laid open to us such vast tracts of thought, and above all, the manliness of his truly practical understanding, are so strongly impressed upon me that I feel satisfied the best answer to his critics is to say, 'Read him.' From communion with such a mind as his, nothing but good can result. He suggests as much as he teaches; and it has been well said, 'that we cannot speak of his *Essay* without the deepest reverence; whether we consider the era which it constitutes in philosophy, the intrinsic value (even at the present day) of its thoughts, or the noble devotion to truth, the beautiful and touching earnestness and simplicity which he not only manifests in himself, but has the power, beyond almost any writer, of infusing into his reader.'

## § III. Locke's Method.

'It may be said that Locke created the science of Metaphysics,' says D'Alembert, 'in somewhat the same way as Newton created Physics. . . . To understand the soul, its ideas and its affections, he did not study books; they would have misdirected him; he was content to descend within himself, and after having, so to speak, contemplated himself a long while, he presented in his *Essay* the mirror in which he had seen himself. In one word, he reduced Metaphysics to that which it ought to be, viz. the experimental physics of the mind.'[*]

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[*] 'En un mot, il réduisit la métaphysique à ce qu'elle doit être, en effet, la physique expérimentale de l'âme.'—*Discours Prélim. de l'Encyclopédie.*

This is great praise, and from high authority, but we suspect that it can only be received with some qualification. Locke made no great discovery which changed the face of science. He was not even the first to turn his glance inwards. Descartes and Hobbes had been before him.

Yet Locke had his Method; a Method peculiarly his own. Others before him had cast a hasty glance inwards, and dogmatised upon what they saw. He was the first to watch patiently the operations of his mind, that, watching, he might surprise the evanescent thoughts, and steal from them the secret of their combinations. He is the founder of modern Psychology. By him the questions of Philosophy are boldly and scientifically reduced to the primary question of the limits of human understanding. By him is begun the *history* of the development and combination of our thoughts. Others had contented themselves with the thoughts as they found them; Locke sedulously inquired into the *origin* of all our thoughts. To complete his Psychology, he should have opened an inquiry into the origin of our Faculties.

M. Victor Cousin, who, as a rhetorician, is in constant antagonism to the clear and analytical Locke, makes it an especial grievance that he and his school have considered the question respecting the origin of ideas as fundamental. 'It is from Locke,' he continues, 'that has been borrowed the custom of referring to savages and children, upon whom observation is so difficult; for the one class we must trust to the reports of travellers, often prejudiced and ignorant of the language of the country visited; for the other class (children), we are reduced to very equivocal signs.' *

Locke wanted to collect facts concerning the origin of ideas; and this is a practice inseparable from true scientific psychological research. Perhaps no source of error has been more abundant than the obstinacy with which men have in all times looked upon their associations as irresistible truths—as primary and universal truths. A little analysis—a little observation of minds removed from the influences which fostered those associations, would prove that those associations were not universal truths, but simply associations. It is because men have analysed the cultivated mind that they have been led to false results; had they compared their analysis with that of an uncultivated mind, they might have gained some insight. The objection against Locke's practice could only proceed from men who study Psychology without previous acquaintance with Physiology—which, though they do not know it, is the same as studying functions without any knowledge of the organs. Locke was the first who systematically sought in the history of the development of the mind for answers to many of the fundamental questions of Psychology, and he has been blamed for this, in the same spirit as that which dictated the sneers of John Hunter's professional contemporaries, because that admirable anatomist sought in comparative anatomy for elucidation of many anatomical problems. Nowadays no well-informed student is ignorant of the fact that Comparative Physiology and Embryology are our surest guides in all biological questions, simply because we therein see the problems gradually removed from many of the complexities which in the higher and more completely developed organisms frustrate our research. Locke saw clearly enough that the philosophers were accustomed to consider their minds as types of the human mind; whereas their minds, being filled with false notions and warped by prejudices, could in nowise be taken as types; for even granting that the majority of their notions were *true*, yet these true notions were not portions of the furniture of universal minds. He sought for illustrations from such minds as had not been so warped.

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* *Histoire de la Philos.* 17 leçon.

His object was 'to inquire into the *original*, *certainty*, *and extent*, of human knowledge.' He was led to this by a conversation with some friends, in which, disputes growing warm, 'after we had puzzled ourselves awhile, without coming any nearer a resolution of those doubts which perplexed us, it came into my thoughts that we took a *wrong* *course*; and that, before we set ourselves upon inquiries of that nature, it was necessary to examine our own abilities, and *see what objects our understandings were or were not fitted to deal with.*'

The plan he himself laid down is as follows:—

'First, I shall inquire into the original of those ideas, notions, or whatever else you please to call them, which a man observes and is conscious to himself he has in his mind; and the ways whereby the understanding comes to be furnished with them.

'Secondly, I shall endeavour to show what knowledge the understanding hath by those ideas; and the certainty, evidence, and extent, of it.

'Thirdly, I shall make some inquiry into the nature and grounds of faith or opinion; whereby I mean that assent which we give to any proposition as true, of whose truth we have yet no certain knowledge; and we shall have occasion to examine the reasons and degrees of assent.'

We here see decisively settled the question so often raised respecting the importance of Locke's Inquiry into Innate Ideas. 'For Locke and his school,' says M. Cousin, justly, 'the study of understanding is the study of Ideas; hence the recent celebrated name of Ideology for the designation of the science of mind.' Indeed, as we have shown, the origin of Ideas was the most important of all questions; upon it rested the whole problem of Philosophy.

According to the origin of our Ideas may we assign validity to them. If they are of human growth and development, they will necessarily partake of human limitations. As Pascal well says, 'Si l'homme commençoit par s'étudier lui-même, il verroit combien il est incapable de passer outre. Comment pourroit-il se faire qu'une partie connût le tout?'

Locke has given us a few indications of the state of opinion respecting Innate Ideas, which it is worth while collecting. 'I have been told that a short epitome of this treatise, which was printed in 1688, was condemned by some without reading, because innate ideas were denied in it, they too hastily concluding that, if innate ideas were not supposed, there would be little left either of the notion or proof of spirits.' Recapitulating the contents of the chapter devoted to the refutation of innate ideas, he says, 'I know not how absurd this may seem to the masters of demonstration, and probably it *will hardly down with anybody at first hearing.*' And elsewhere: 'What censure doubting thus of innate principles may deserve from men, who will be apt to call it pulling up the old foundations of knowledge and certainty, I cannot tell; I persuade myself at least that the way I have pursued, being conformable to truth, lays those foundations surer.'

Locke's inquiry was purely psychological; although he had been a student of medicine, he never indulges in any physiological speculations, such as his successors, Hartley and Darwin, delighted in. Ideas, and ideas only, solicited his analysis. Dugald Stewart has remarked that in the *Essay* there is not a single passage savouring of the anatomical theatre or of the chemical laboratory.

'If by this inquiry into the nature of the understanding I can discover the powers thereof, how far they reach, to what things they are in any degree proportionate, and where they fail us, I suppose it may be of use to prevail with the busy mind of man to be more cautious in meddling with the things exceeding its comprehension, to stop when it is at the utmost extent of its tether, and sit down in a quiet ignorance of those things which upon examination are found to be beyond the reach of our capacities. We should not then perhaps be so forward, out of an affectation of universal knowledge, to raise questions and perplex ourselves and others about things to which our understandings are not suited, and of which we cannot frame in our minds any clear or distinct perceptions, or whereof (as it has perhaps too often happened) we have not any notions at all. Men have reason to be well satisfied with what God has thought fit for them, since he has given them, as St. Peter says, πάντα πρὸς ζωὴν καὶ εὐσέβειαν, whatsoever is necessary for the convenience of life and the information of virtue; and has put within the reach of their discovery the comfortable provision for this life, and the way that leads to a better. How short soever their knowledge may be of a universal or perfect comprehension of whatever is, it yet secures their great concernments, that they have light enough to lead them to the knowledge of their Maker and the *sight of their own duties.* Men may find matter sufficient to busy their heads and employ their hands with variety, delight, and satisfaction, if they will not boldly quarrel with their own constitutions, and throw away the blessings their hands are filled with because they are not big enough to grasp everything.

'We shall not have much reason to complain of the narrowness of our minds if we will but employ them about what may be of use to us, for of that they are very capable; and it will be an unpardonable as well as childish peevishness if we undervalue the advantages of our knowledge, and neglect to improve it to the ends for which it was given us, because there are some things set out of reach of it. It will be no excuse to an idle and untoward servant who would not attend his business by candle-light, to plead that he had not broad sunshine. The candle that is set up within us shines bright enough for all our purposes.

'When we know our own strength, we shall the better know what to undertake with hopes of success;* and when we have well surveyed the powers of our own minds, and made some estimate what we may expect from them, we shall not be inclined either to sit still, and not set our thoughts on work at all, despairing of knowing anything; or, on the other side, question everything, and disclaim all knowledge because some things are not to be understood. It is of great use to the sailor to know the length of his line, though he cannot with it fathom all the depths of the ocean. It is well he knows that it is long enough to reach the bottom at such places as are necessary to direct his voyage, and caution him against running upon any shoals that they may ruin him. . . . This was that which gave the first rise to this Essay concerning the Understanding; for I thought that the first step towards satisfying several inquiries the mind of man was very apt to run into was to take a survey of our own understandings, and to see to what things they were adapted. Till that was done I suspected we began at the wrong end, and in vain sought for satisfaction in a quiet and sure possession of truths that most concerned us, whilst we let loose our thoughts into the vast ocean of being; as if that boundless extent were the natural and undoubted possession of our understandings, wherein there is nothing exempt from its decisions, or that escaped its comprehension. Thus men extending their inquiries beyond their capacities, and letting their thoughts wander into those depths where they can find no sure footing, it is no wonder that they raise questions and multiply disputes, which, never coming to any clear resolution, are proper only to continue and increase their doubts, and to confirm them at last in perfect scepticism.'

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* 'The real cause and root of almost all the evils in science is this: that, falsely magnifying and extolling the powers of the mind, we seek not its true helps.'—BACON.

The objective tendency of Locke's unmetaphysical mind led him to a clear recognition of the Scholastic error respecting Essences, i.e. the existence of entities corresponding to general terms. He showed that what had for centuries been regarded as essences of classes were merely the signification of their *names*; and I agree with Mr. Mill in considering this among the most valuable of the many services Locke rendered to Philosophy.

It should be added however that Locke, when 'he extirpated the parent error, could not shake himself free from that which was its fruit. He distinguished two sorts of essences, Real and Nominal. His nominal essences were the essences of classes. But he also admitted real essences, or essences of individual objects, which he supposed to be the causes of the sensible properties of those objects. We know not, he said, what these essences are (and this acknowledgment rendered the fiction comparatively innocuous); but if we did, we could from them alone demonstrate the sensible properties of the object, as the properties of the triangle are demonstrated from the definition of a triangle.'*

The decisive manner in which Locke separates himself from the ontologists is historically noteworthy, and is also noticeable as giving the tone to his subsequent speculations. We have admired the Portico; let us enter the Temple.

## § IV. THE ORIGIN OF OUR IDEAS.

Hobbes had said, with Gassendi, that all our ideas are derived from sensations; *nihil est in intellectu quod non prius fuerit in sensu.* Locke, who is called a mere populariser of Hobbes, said that there were *two* sources, not *one* source, and these two were SENSATION and REFLECTION. Separating himself decisively from the upholders of the doctrine of innate ideas—of truths independent of experience,—he declared that all our knowledge is founded upon experience, and from experience it ultimately derives itself. Separating himself no less decisively from the Gassendists, who saw no source of ideas but Sensation, he declared that, although Sensation was the great source of all our ideas, yet there was 'another fountain from which experience furnisheth the understanding with ideas;' and this source, '*though it be not sense*, as having nothing to do with external objects, yet it is very like it, and might properly enough be called *internal sense*:' this he calls Reflection.

After Dugald Stewart's ample exposure of the widespread error that Locke was the chief of the so-called Sensational School, we need spend little time in inquiring whether Locke did or did not teach that all knowledge was referable to sensation. The passages which contradict the vulgar error are numerous and decisive. Dugald Stewart has selected several; but perhaps the one we have just quoted will be considered sufficiently explicit. Reflection, he says, 'though it be not the sense,' may yet analogically be considered as an internal sense. To prevent all misconception, however, we will as a decisive example refer to his proof of the existence of God, which he sums up by saying, 'It is plain to me that we have a more certain knowledge of the existence of a God than of anything our senses have not immediately discovered to us. Nay, I presume I may say that we may more certainly know that there is a God than that there is anything else without us.' (Book iv. ch. x.)

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* MILL: *Logic*, i. 126.

Historians have not accorded due praise to Locke for the important advance he made towards a solution of the great question respecting the origin of knowledge. While Leibnitz has been lauded to the skies for having expressed Locke's doctrine in an epigram, Locke has not only been robbed of his due, but has been sacrificed to his rival. It is commonly said, 'Locke reduced all our knowledge to Sensation: Leibnitz came and accepted the old adage of *nihil est in intellectu quod non prius fuerit in sensu*, but he accepted it as only half the truth; and therefore added *nisi ipse intellectus*.' Now, firstly, Locke did not accept the adage as the whole truth; he said that Reflection was a second source of ideas. Secondly, Dugald Stewart has remarked that the addition which Leibnitz made when he said there is nothing in the intellect which was not previously in the sense, *except the intellect itself*, expresses no more than the doctrine of Locke, who says, 'External objects furnish the mind with ideas of sensible qualities; and the mind furnishes the understanding with the ideas of its own operations.' Thirdly, although the phrase is epigrammatic, and thereby has had such success in the world as epigrams usually have, it will not bear scrutiny: few epigrams will. Except as a verbal jingle, how trivial is the expression—the intellect *in* the intellect! Suppose a man to say, 'I have no money in my purse, except my purse itself,' he would scarcely be less absurd. For when the Schoolmen said, 'nothing was in the intellect which was not previously in the sense,' they did not mean that the intellect was the same as the sense; they meant that the intellect was furnished with no ideas, notions, or conceptions, which had not been furnished them by sense; they meant that the senses were the inlets to the soul.

Dr. Whewell approves of the epigram; and alluding to Mr. Sharpe's objection[*] to it, viz. that we cannot say the intellect is *in* the intellect, he says, 'This remark is obviously frivolous; for the faculties of the understanding (which are what the argument against the Sensational School requires us to reserve) may be said to be in the understanding with as much justice as we may assert that there are in it the impressions derived from sense.' We submit that the 'faculties' of the understanding are not '*all* that must be reserved for the argument against the Sensational School' (if the Lockists be meant, and to them only did Leibnitz address himself), for the simple reason that the faculties *never* were denied.[*] Opponents have attributed such a notion to Locke's school; no member of that school ever proposed it. The question never was—*Have we an Understanding, and has that Understanding certain Faculties?* The question simply was—*What is the origin of our Ideas: are they partly innate and partly acquired; or are they wholly acquired, and, if so, is Sense the sole inlet?*

To this plain question some replied plainly, 'Sense is the origin of all our ideas.' Locke replied, 'Sense and Reflection are the sources of all our ideas.'

Leibnitz replied, 'There is nothing in the intellect which was not previously in the sense; except the intellect itself:' which latter remark is altogether *beside* the question. And yet this remark has called forth many pages of laudatory declamation: in which Locke is cast into the background, and charged with having overlooked the important fact that man has an intellect as well as senses. This notion, once started, continued its triumphant course. Men are for the most part like sheep, who always follow the bell-wether: what one boldly asserts, another echoes boldly; a third transmits it to a fourth, and the assertion becomes consolidated into a traditional judgment. Some one more serious, or more independent than the rest, looks into the matter; sees an error, exposes it; but tradition rolls on its unimpeded course. I do not expect to shake the traditional error respecting Locke; I was bound, however, to signalise it. Locke does *not* derive all our knowledge from sensation; Leibnitz has *not* made any addition by his too famous *nisi ipse intellectus.*[*]

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[*] LOCKE often speaks of the operations of the mind as proceeding from powers intrinsical and proper to itself. He says also: 'Thus the first *capacity* of human intellect is that the mind is fitted to receive the impressions made on it; either through the senses by outward objects or *by its own operations when it reflects on them*.'—*Essay*, b. ii. c. i. § 24.

By Sensation, Locke understands the simple operation of external objects through the senses. The mind is herein wholly passive. The senses, therefore, may be said to furnish the mind with one portion of its *materials*. By Reflection he understands that internal sense by means of which the mind observes its own operations. This furnishes the second and last portion of the materials out of which the mind frames knowledge. 'If it shall be demanded,' he says, 'when a man begins to have any ideas, I think the true answer is, when he first has any sensation. For since there appear not to be any ideas in the mind before the senses have conveyed any in, I conceive that ideas in the understanding are coeval with sensation.' This is making a decisive stand against the upholders of innate ideas; but it is a very rude and incomplete view.

Plato finely compares the soul to a book, of which the senses are the scribes.[†] Now writing is only possible after a series of tentatives; the hand must practise before it can steady itself sufficiently to trace letters; so also must the senses learn by repetition to trace intelligible figures on the *tabula rasa* of the mind.

Locke continues his account of the origin of all our knowledge thus: 'In time the mind comes to reflect on its own operations about the ideas got by sensation, and thereby stores itself with a new set of ideas, which I call ideas of reflection. These are the impressions which are made on our senses by outward objects that are extrinsical to the mind, and its own operations proceeding from powers intrinsical and proper to itself; which when reflected on by itself, becoming also objects of its contemplation, are, as I have said, the original of all knowledge. Thus the first capacity of the human intellect is that the mind is fitted to receive the impressions made on it; either through the senses by outward objects or by its own operations when it reflects on them. This is the first step that a man makes towards the discovery of and the groundwork whereon to build all those notions which ever he shall have naturally in this world. All those sublime thoughts which tower above the clouds, and reach as high as heaven itself, take their rise and footing here: in all that good extent wherein the mind wanders, in those remote speculations it may seem to be elevated with, it stirs not one jot beyond those ideas which sense or reflection have offered for its contemplation.'

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[*] LEIBNITZ himself says, when making the distinction, 'Cela s'accorde assez avec votre auteur de l'Essai, qui cherche une bonne partie des Idées dans la réflexion de l'esprit sur sa propre nature.'—*Nouveaux Essais*, ii. c. i.

[†] *Philebus*, p. 192, ed. BEKKER. PLATO's words are not given in the text, but the sense is.

'When the understanding is once stored with these simple ideas, it has the power to repeat, compare, and unite, them, even to an almost infinite variety, and so can make at pleasure new complex ideas. But it is not in the power of the most exalted wit, or enlarged understanding, by any quickness or variety of thought, to invent or frame one new simple idea in the mind not taken in by the ways aforementioned.'

Whoever attentively considers these passages, or consults the *Essay on the Understanding* with a view of ascertaining what precisely was the position held by Locke, will, I think, soon arrive at the conviction that, although he presupposes the existence of an active Mind (consequently of Faculties capable of being excited into activity by the operation of external objects on it through Sense), he was in a state of indecision and confusion respecting the faculties themselves and the true psychological process; he could not therefore fairly meet all the objections which the other school might urge.

He is distinguished from the Sensational School by the absence of any notion of evolving the Faculties from sensations. He proclaimed Sense the purveyor of food for the Mind; he did not conceive that Mind itself was developed out of Sense. As to ideas, the mind was a *tabula rasa* before experience came to write on it; but as to Faculties, the mind was—something which he had never made clear to himself.

Thus although he was strong in argument against Innate Ideas, and against all the attempts to establish a source of knowledge independent of experience, he had but confused notions of what this Mind was, the existence of which he assumed, and of what relations of dependence existed between the Faculties and sensations. In a word, the elementary biological facts were unsuspected; and consequently there was much in his exposition which was unsatisfactory; as opponents were quick in discovering.

Opponents, however, and especially Leibnitz, committed a great oversight in charging him with not having recognised the fact on which they lay so much stress, namely, that we have ideas which have their foundation in the Mind, and which consequently have a certitude superior in its universality and necessity to any sense-knowledge. These ideas are derived from the perception of the relations which exist among our abstract ideas—as in mathematics. Thus while the origin of all simple ideas is in Sense, and our certitude can never go beyond what is thus given in experience, the relations of these ideas among each other are of universal *à priori* certitude.

## § V. Elements of Idealism and Scepticism in Locke.

It is certain that Locke was neither an Idealist, like Berkeley, nor a Sceptic, like Hume. Nevertheless, if we examine attentively, we shall see certain elements in his psychology which were easily developed into both these doctrines.

Can we know things as they are? Descartes and his followers suppose that we can: their criterion is the clearness and distinctness of ideas. Locke said, '*Distinct* ideas of the several sorts of bodies that fall under the examination of our senses, perhaps we may have; but *adequate* ideas I suspect we have not of any one amongst them.' Our ideas, however clear, are never adequate; they are subjective. But Locke only went halfway towards the conception of knowledge as subjective. He did not think that all our ideas were images, copies of external objects; but he expressly taught that our ideas of what he calls *primary qualities* are *resemblances* of what really exists in bodies; adding, that 'the ideas produced in us by *secondary* qualities have no resemblances of them at all. There is nothing like our ideas existing in the bodies themselves. They are, in the bodies we denominate from them, only a power to produce those sensations in us.'

It is remarkable that the last sentence did not lead him to the conclusion that *all* the qualities which we perceive in bodies are but the powers to produce sensations in us; and that it is we who attribute to the causes of these sensations a form analogous to their effects. He himself warned us 'that so we may not think (as perhaps usually is done) that they (ideas) are exactly the images and resemblances of something inherent in the subject; most of those of sensation being in the mind no more the likeness of something existing without us than the names that stand for them are likenesses of our ideas, which yet upon hearing they are apt to excite in us.' And elsewhere, 'It being no more impossible to conceive that God should annex such ideas to such motions (i.e. the motions of objects affecting the senses) with which they have no similitude than that he should annex the idea of pain to the motion of a piece of steel dividing our flesh, with which that idea hath no resemblance.'

From these passages it will be seen how clearly Locke understood the subjective nature of one portion of our knowledge. He did not carry out the application of his principles to primary qualities, owing perhaps to inveterate association having too firmly established the contrary in his mind. Everyone is willing to admit that colour, light, heat, perfume, taste, etc. are not qualities in the bodies which are reproduced in us, but simply conditions of our Sensibility, when placed in certain relations with certain bodies. Yet few are willing to admit—indeed only philosophers (accustomed as they are to undo their constant associations) can conceive that the primary qualities, viz. extension, solidity, motion, and number, are other than real qualities of bodies —*copies* of which are impressed upon us. And yet these qualities are no less subjective than the former. They do not belong at all to bodies, except as powers to produce in us the sensations. They are demonstrably as much the effects produced in us by objects as the secondary qualities are; and the latter everyone admits to be the *effects*, and not *copies*. Wherein lies the difference? wherein the difficulty of conceiving primary qualities not to belong to bodies? In this: the primary qualities are the *invariable* conditions of sensation. The secondary qualities are the *variable* conditions. We can have no perception of a body that is not extended, that is not solid (or the reverse), that is not simple or complex (number), that is not in motion or rest. These are invariable conditions. But a body is not necessarily of any particular colour, taste, scent, heat, or smoothness; it may be colourless, tasteless, scentless. These secondary qualities are all variable. Consequently the one set, being invariable, have occasioned indissoluble associations in our minds, so that it is not only impossible for us to imagine a body, without at the same time imagining it as endowed with these primary qualities; but also we are irresistibly led to believe that the bodies we perceive do certainly possess those qualities quite independently of us. Hence it has been said that the Creator himself could not make a body without extension: for such a body is impossible. The phrase should be, 'such a body it is impossible for *us to conceive*.' But our indissoluble associations are not proofs of objective reality.

That we cannot conceive body without extension is true; but that, because we cannot conceive it, the contrary must be false is preposterous. All our assertion in this matter can amount to is that knowledge must be subordinate to the conditions of our nature. These conditions are not conditions of things, but of our organisations. If we had been so constituted as that all bodies should affect us with a sensible degree of warmth, we should have been irresistibly led to conclude that warmth was a quality inherent in body; but because warmth varies with different bodies, some warm, others cold, there is no indissoluble association formed. And so of the other qualities.

To return to Locke: he has very well stated the nature of our knowledge of external things, though he excepts primary qualities. 'It is evident,' he says, 'that the bulk, figure, and motion of several bodies about us produce in us several sensations, as of colours, sounds, tastes, smells, pleasure and pain, etc. These mechanical affections of bodies having no affinity at all with those ideas they produce in us (there being no conceivable connection between any impulse of any sort of body, and any perception of a colour or smell which we find in our minds), we can have no distinct knowledge of such operations beyond our experience, and can reason about them no otherwise than as the effects produced by an infinitely wise Agent, which perfectly surpass our comprehensions.'

He shortly after says, 'The things that, as far as our observation reaches, we constantly find to proceed regularly, we may conclude do act by a law set them; but yet by a law that we know not: whereby, though causes work steadily, and effects constantly flow from them, yet their connections and dependencies being not discoverable in our ideas, we can have but an experimental knowledge of them.' Here we have Hume's doctrine of Causation anticipated.

To prove the subjective nature of our knowledge is but one step towards the great question. The second step, which it is vulgarly supposed was only taken by Berkeley and Hume, was also taken by Locke. Hear him. 'Since the mind in all its thoughts and reasonings hath no other immediate object but its own ideas, which it alone does or can contemplate, it is evident that our knowledge is only conversant about them. Knowledge, then, seems to me nothing but the perception of the connection and agreement, or disagreement and repugnancy, of any one of our ideas.'

This is the great stronghold of Idealism and Scepticism. Locke foresaw the use which would be made of it; and he stated the problem with remarkable precision. 'It is evident that the mind knows not things immediately, but only by the intervention of ideas it has of them. Our knowledge therefore is real only so far as there is a conformity between our ideas and the reality of things. *But what shall be here the criterion? How shall the mind, when it perceives nothing but its own ideas, know that they agree with the things themselves?*'

Thus has he stated the problem which was solved by Idealism on the one hand, and by Scepticism on the other. Let us see how it will solve it. There are two sorts of ideas, he says, the simple and the complex; or, to use more modern language, perceptions and conceptions. The first 'must necessarily be the product of things operating on the mind in a natural way, and producing those perceptions which by the wisdom and will of our Maker they are ordained and adapted to. From whence it follows that simple ideas are not fictions of our fancies, but the natural and regular productions of things without us really operating upon us; and so carry with them all the conformity which is intended, or which our state requires: for they represent things to us under those appearances which they are fitted to produce in us.'

This leaves the question of Idealism unanswered, though it cuts the Gordian knot of Scepticism. It is a plain and explicit avowal of the relativity of our knowledge; of the impossibility of our ever transcending the sphere of our consciousness and penetrating into the essence of things. Complex ideas being made out of simple ideas, we need not examine their pretensions to infallibility. All human certainty is therefore only a relative certainty. Ideas may be true for us, without being at all true when considered absolutely. Such is Locke's position. He stands upon a ledge of rock between two yawning abysses. He will stand there, and proceed no further. Why should he move when he knows that a single step will precipitate him into some fathomless gulf? No: he is content with his ledge of rock. 'The notice we have by our senses,' he says, 'of the existence of things without us, though it be not altogether so certain as our intuitive knowledge or the deductions of our reason, employed about the clear abstract ideas of our own minds; yet it is an assurance that deserves the name of knowledge. If we persuade ourselves that our faculties act and inform us right concerning the existence of those objects that affect them, it cannot pass for an ill-grounded confidence; for I think nobody can in earnest be so sceptical as to be uncertain of the existence of those which he sees and feels. At least he that can doubt so far (whatever he may have with his own thoughts) will never have any controversy with me, since he can never be sure I say anything contrary to his own opinions. As to myself, I think God has given me assurance enough as to the existence of things without me; since by their different application I can produce in myself both pleasure and pain, which is one great concernment of my present state. We cannot act by anything but our faculties; nor talk of knowledge but by the help of those faculties which are fitted to apprehend even what knowledge is.'

Again, anticipating the objection that 'all we see, hear, feel and taste, think and do, during our whole being, is but the series and deluding appearances of a long dream, and therefore our knowledge of anything be questioned; I must desire him to consider that, if all be a dream, then he doth but dream that makes the question; and so it is not much matter that a waking man should answer him. But yet, if he pleases, he may dream that I make him this answer, That the *certainty* of things existing in *in rerum naturâ*, when we have the testimony of our senses for it, is not only as great as our frame can attain to, but as our condition needs.' This leaves Idealism unanswered; but it pronounces Scepticism to be frivolous: 'for our faculties,' he continues, 'being not suited to the full extent of being, nor to a perfect, clear, comprehensive knowledge of things free from all doubt and scruple, but to the preservation of us, in whom they are, and accommodated to the use of life; they serve our purpose well enough, if they will but give us certain notice of those things which are convenient or inconvenient to us.'

That this is very good common-sense everyone will admit. But it is no answer to Scepticism. Hume, as we shall see hereafter, proclaimed the very same opinions: but the difference between him and Locke was that he knew such opinions had no influence whatever upon the philosophical question, but simply upon the practical affairs of life; whereas Locke, contenting himself with the practical, disdained to answer the philosophical question.*

We may sum up the contents of this section by saying that Locke distinctly enough foresaw the Idealistic and Sceptical arguments which might be drawn from his principles. He did not draw them, because he thought them frivolous. Aware that all human certitude could only be relative certitude—that human knowledge could never embrace the nature of things, but only the nature of their effects on us—he was content with that amount of truth, and 'sat down in quiet ignorance of those things which are beyond the reach of our capacities.' The grand aim of the *Essay* was to prove that all knowledge is founded on Experience. That proved, he was aware that Experience never could be other than relative—it could only be *our* Experience of things; and our Experience could be no *absolute* standard; it could only be a standard for us.

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* Reid conjectures that 'Locke had a glimpse of the system which Berkeley afterwards advanced, though he thought proper to suppress it within his own breast.' Not to suppress, but to disdain it.

## § VI. Locke's Critics.

We cannot leave the great Englishman without adverting to the tone adopted by many of his critics. This tone has been anything but considerate.

That men should misrepresent Spinoza, Hobbes, or Hume, is intelligible enough; they are frightened, and in their terror exaggerate and distort what they see. That they should misrepresent Kant, Fichte, or Hegel, is also intelligible; the remoteness of the speculations and the difficulty of the language are sufficient excuses. But that they should misrepresent Locke is wholly inexcusable. He was neither an audacious speculator nor a cloudy writer. His fault was that he spoke plainly and honestly. He endeavoured to explain the Chemistry of the Mind (if the metaphor be permissible), renouncing the vague futile dreams of Alchemy. All those men who still seek to penetrate impenetrable mysteries, and refuse to acknowledge the limits of man's intelligence, treat Locke with the same superb disdain as the ambitious alchemists treated the early chemists. The tone in which most modern Frenchmen and Germans speak of Locke is painful; the tone in which many Englishmen speak of him is inexcusable.

There is no excuse for not understanding Locke. His language may be occasionally loose and wavering, but his meaning may always be gathered from the context. He had not the lucidity of Descartes or of Hobbes; but he was anxious to make himself intelligible, and to this end he varied his expressions, and stated his meaning in a variety of forms. He must not be taken literally. No single passage is to be relied on, unless it be also borne out by the whole tenour of his speculations. Any person merely 'dipping into' the *Essay* will find passages which seem very contradictory; any person carefully reading it through will find all clear and coherent.

The most considerable of Locke's modern critics is Victor Cousin. He has undertaken an examination and refutation of all Locke's important positions. The eminence of his name and the popular style of his lectures have given great importance to his criticism; but if we are to speak frankly, we must characterise this criticism as very unfair, and extremely shallow. We cannot here examine his examination: a volume would not suffice to expose all his errors. Let one example of the unfairness, and one of the shallowness, suffice:—

Speaking of the principle of reflection, he says: 'In the first place, remark that Locke here evidently confounds reflection with consciousness. Reflection, strictly speaking, is doubtless a faculty analogous to consciousness, but distinct from it, and which more particularly belongs to philosophers, whereas consciousness belongs to every man.'

We answer that, in the first place, so far from its being evident that Locke confounds reflection with consciousness, his whole *Essay* proves the contrary. In the second place, M. Cousin, using the word reflection in a peculiar sense (viz. as tantamount to speculation), forces that sense upon Locke, and thus makes the contradiction! If M. Cousin had interpreted Locke fairly, he could never have thus 'caught him on the hip.'

It is quite true that, in the passage quoted by M. Cousin, the faculty of reflection is limited to the operations of the mind; but, as we said, to pin Locke down to any one passage is unfair; and his whole *Essay* proves, in spite of some ill-worded definitions, that by reflection he meant very much what is usually meant by it, viz. the activity of the mind in combining the materials it receives through sense, and becoming thus a source of ideas.

This leads us to the second example. M. Cousin, wishing to prove, against Locke, that we have ideas from some other source beside sensation and reflection, instances the idea of space, and examines how it was possible to obtain that idea through sensation and reflection. That the idea of pure space could not have been obtained through the senses he seems to think is satisfactorily proved by proving that the idea has nothing sensuous in it; that it could not have been obtained through reflection, because it has nothing to do with the operations of our understanding, is equally evident to him. Hence, as both sources fail, he pronounces Locke's account of the origin of our knowledge 'incomplete and vicious.'

This argument, which extends to several pages, is deemed by M. Cousin triumphant. Locke indeed says that 'we get the idea of space both by our sight and touch.' Any honest inquirer would never quibble upon this — would never suppose Locke meant to say that space is a *sensation*. He would understand that Locke meant to say, 'the idea of space is an abstraction: the primary materials are obtained through our touch and sight.' Locke did not anticipate any quibbling objection, so did not guard against it; but in his explanation of our idea of substance he has given an analogous case; although his antagonists have also frequently objected that the idea of substance never could have been obtained through sense. It has been thought an irresistible argument against Locke's theory: the very fact that we have an idea of substance is supposed to be sufficient proof of some other source of knowledge than sensation and reflection. This is an example of how carelessly Locke has been read. He expressly tells us, in more places than one, that the idea of substance (and by idea he does not here mean *image*, but a *thought*) is an inference grounded upon our experience of external things. True it is that we perceive nothing but phenomena, but our minds are so constituted that we are forced to suppose these phenomena have substances lying underneath them.

'If anyone will examine himself,' he says 'concerning his notions of pure substance in general, he will find he has no other idea of it at all, but only a supposition of he knows not what support of such qualities which are capable of producing simple ideas in us, which qualities are commonly called accidents. If anyone should be asked what is the subject wherein colour or weight inheres, he would have nothing to say but the solid extended parts; and if he were demanded what is it that solidity and extension inhere in; he would not be in a much better case than the Indian who, saying that the world was supported by a great elephant, was asked what the elephant rested on, to which his answer was, A great tortoise; but being again pressed to know what gave support to the great broad-backed tortoise, replied, Something, he knew not what.'

The same course of argument will apply to space. M. Cousin declaims, and brings forward many arguments and illustrations, all utterly trivial, to show that the idea of space could never have been a sensation. A little more attention in reading the author he attacks would have saved him all this trouble. Locke never for an instant supposed that the idea of space could have been a sensation: on the fact that it could not, he grounds his position that the idea is vague, and is a mere 'supposition.'

Now let us hear an Englishman, who is also an historian:—'We need not spend much time in pointing out the inconsistencies into which Locke fell,' says Dr. Whewell, 'as all must fall into inconsistencies who recognise no source of knowledge except the senses.' Let us remark, in the first place, that it is surely a questionable procedure thus to pass over so great a man as Locke, whose influence has been general and lasting, and whose 'inconsistencies' it behoved Dr. Whewell, more than most men, to refute, inasmuch as Locke's principles refute *his* whole philosophy. Secondly, it is a misrepresentation to assert Locke's having recognised 'no source of knowledge except the senses.' Locke *did* recognise another source. 'Thus he maintains,' continues Dr. Whewell, 'that our idea of space is derived from the senses of sight and touch—our idea of solidity from the touch alone. Our notion of substance is an unknown support of unknown qualities, and is illustrated by the Indian fable of the tortoise which supports the elephant which supports the world.'

Space we have already considered in answering M. Cousin. As to solidity, if the idea be not derived from the sensation, from whence is it derived? And as to substance, we must here again notice a misrepresentation of Locke, who does not define it as 'an unknown support of unknown qualities,' but as an unknown support of *known* qualities: from our knowledge of the qualities we infer the existence of some substratum in which they inhere. We are, with respect to substance, somewhat in the condition of a blind man, who, whenever he moved in a certain direction, should receive a blow from some revolving wheel. Although unable to see the wheel, and so understand the cause of pain he received, he would not hesitate to attribute that cause to something without him. All he could ever know, unassisted, would be the fact of his being struck when he moved in a certain direction; he could have no other knowledge of the wheel, yet he would be quite certain that there was something besides his pain, and that unknown something would stand to him in a relation somewhat similar to that in which the unknown support of known accidents of bodies stands to us. This is Locke's meaning.

'Our notion of power or cause,' continues the historian, 'is in like manner got from the senses; and yet, though these ideas are thus mere fragments of our experience, Locke does not hesitate to ascribe to them necessity and universality when they occur in propositions. Thus he maintains the necessary truth of geometrical properties; he asserts that the resistance arising from solidity is absolutely insurmountable; he conceives that nothing short of Omnipotence can annihilate a particle of matter; and he has no misgivings in arguing upon the axiom that everything must have a cause. He does not perceive that, upon his own account of the origin of our knowledge, we can have no right to make any of these assertions. If our knowledge of the truths which concern the external world were wholly derived from experience, all that we could venture to say would be that geometrical properties of figures are true *as far as we have tried them*; that we have seen *no example* of a solid body being reduced to occupy less space by pressure, or of a material substance annihilated by natural means; and that, *wherever we have examined*, we have found that every change has had a cause.'

This is only one among many instances of Dr. Whewell's want of accurate interpretation of Locke. The fallacy on which his argument rests, we shall examine at some length when we come to treat of Kant. Meanwhile let the following passage prove that Locke did not hesitate to ascribe necessity and universality to certain ideas when they 'occur in propositions,' but very clearly explained the nature of this necessity in a masterly passage: 'There is one sort of propositions concerning the existence of anything answerable to such an idea; as having the idea of an elephant, phœnix, motion, or angle, in my mind, the first and natural inquiry is whether such a thing does anywhere exist. And this knowledge is only of particulars. No existence of anything without us, except God, can certainly be known further than our senses inform us.

'There is another sort of propositions, wherein is expressed the agreement or disagreement of our abstract ideas and their dependence on one another. *Such propositions may be universal and certain.* So, having the idea of God and of myself, of fear and obedience, I cannot but be sure that God is to be feared and obeyed by me: and this proposition will be certain concerning man in general, *if I have made an abstract idea of such species whereof I am one particular.* But yet this proposition, how certain soever, that men ought to fear and obey God, proves not to me the existence of men in the world, but *will be true of all such creatures wherever they do exist*: which certainty of such general propositions depends on the agreement or disagreement to be discovered in those abstract ideas. In the former case our knowledge is the consequence of the existence of things producing ideas in our minds by our senses; in the latter, knowledge is the consequence of the ideas (be they what they will) that are in our minds producing their general certain propositions.

'Many of these are called *æternæ veritates*; and all of them indeed are so; not from being written in the minds of all men, or that they were any of them propositions in anyone's mind till he, having got the abstract ideas, joined or separated them by affirmation or negation. But wheresoever we can suppose such a creature as man is endowed with such faculties, and thereby furnished with such ideas as we have, we must conclude he must needs, when he applies his thoughts to the consideration of his ideas, know the truth of certain propositions that will arise from the agreement or disagreement which he will perceive in his own ideas. Such propositions therefore are called eternal truths, not because they are eternal propositions actually formed and antecedent to the understanding that makes them; nor because they are imprinted on the mind from any patterns that are anywhere of them out of the mind and existed before; but because being once made about abstract ideas so as to be true, they will, whenever they can be supposed to be made again at any time by a mind having those ideas, always actually be true.'* This passage is sufficient to exonerate him from the charge of inconsistency; sufficient also, we believe, to show the error of Dr. Whewell's own conception of the necessity of certain truths.

The foregoing are samples of the style in which the great master of Psychology is spoken of by his most modern critics. Let them be sufficient warning to the reader of what he is to expect from the partisans of the reaction against Locke, and his followers; and stimulate him to the careful study of that author who 'professes no more than to lay down, candidly and freely, his own conjectures concerning a subject lying somewhat in the dark, without any other design than an unbiassed inquiry after truth.'

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* *Essay*, book iv. ch. xi. §§ 13, 14.

## CHAPTER III.

### *LEIBNITZ.*

LEIBNITZ was a variously accomplished man, whose immense activity made itself conspicuous in many directions. One of the most illustrious of metaphysicians, it is not his fault, but the fault of the Metaphysical Method, if his speculations sometimes outrage common sense. And yet it is not easy for those who adopt the Method to point out a flaw in the reasoning, even when that reasoning conducts him to such hypotheses as the Pre-established Harmony and the Monadology.

While Locke was doing his utmost to destroy Ontology by a psychological proof of the relativity of knowledge, his great critic endeavoured to place Ontology on a scientific basis. He constructed a scheme from logical principles, accepted *à priori.* The principle of Contradiction, the principle of Sufficient Reason, the principle of Final Cause, the principle of Agreement (*convenientiæ*), were all, so to speak, derived from the *à priori* notions of the wisdom and goodness of God. Among the infinitude of possibilities, God, being good, must have chosen that which is best. And what is best? That which presents the most perfect order and harmony. The basis of all philosophy, therefore, will be the conviction that whatever is s for the best; that everything is good, harmonious, and beautiful. 'On voit par là comment la véritable physique doit être puisée effectivement à la source des perfections divines.' Philosophy is a Theodicy.

One seems in such passages to hear the murmur of the chools of the twelfth and thirteenth centuries. Leibnitz indeed was a strayed scholastic; and although he investigated scientific problems, he was inspired by the metaphysical spirit. Experience was relegated to a second rank. Subordinated to Reason, it might occasionally suggest a discovery; and indeed was necessary as verification. But the basis of deduction, he taught, is always that of final cause. Induction alone is powerless.

'Ainsi, deux grands principes, l'axiome de l'identité et celui de la convenance; deux ordres de vérités et deux procédés de recherche; d'une part les vérités nécessaries et la déduction logique, sphère du possible et du vrai, où se rangent avec les mathématiques, la métaphysique, la logique et la morale; d'autre part, les vérités contingentes, et l'induction éclairée par la considération de la sagesse divine et vérifiée par les expériences; sphère de l'actuel et du réel, objet propre de la physique; telle est, réduite à sa plus simple expression, la méthode de Leibnitz.'*

Whoever reads the *Monadologie* with attention will perceive the remarkable ingenuity and consistency of Leibnitz in his application of the method; but a reader who is dissatisfied with the method itself, and rejects its deductive pretensions, will pronounce this ingenuity strangely misplaced. Descartes, having separated Mind from Matter, as two essentially distinct entities, immediately perceived the difficulty of how the one could act upon the other. Malebranche † solved it by the once famous hypotheses of 'occasional causes':—We see all things in God; and it is God who produces sensations in us coincident with the movements of bodies, or *vice versâ* produces movements in bodies coincident with our volitions.

Leibnitz also saw the difficulty, but never suspected that in it lay the disproof of the distinction established by Descartes; indeed, no man in those days had a suspicion that Mind might possibly be no entity at all to be acted on; unable, therefore, to conceive mind as a function, and forced to accept it as an entity, the difficulty of conceiving how Body could act upon it was immense. He objected to the explanation of 'occasional causes,' because it involved a perpetual miracle. Why a perpetual miracle should be rejected, he did not make clear; still less did he show wherein his favourite hypothesis of a Pre-established Harmony (borrowed from Spinoza) surpasses the philosophic value of Occasional Causes: the two only differ as a constant and a constantly-renewed action of the deity; the fluent motion of God's agency, of the one conception, is crystallised into the preordained plan, of the other.

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* Jacques: *Œuvres de Leibnitz*, introd. xiii.

† Malebranche: *Recherche de la Vérité*, lib. vi. ch. 3. Comp. Descartes: *Princip. Phil.* ii. § 36.

Impressions on the body create sensations in the mind; but how? Leibnitz thought that body and mind were as two independent but corresponding machines. They are so adjusted that they are like two unconnected clocks, constructed so as that the instant one strikes the hour, the other *points* it. 'I cannot help coming to this notion,' he says, 'that God created the soul in such a manner at first that it should *represent* within itself all the simultaneous changes in the body; and that he has made the body also in such a manner as that it must of itself do what the soul wills: so that the laws which make the thoughts of the soul follow each other in regular succession *must* produce *images* which shall be coincident with the impressions made by external objects upon our organs of sense; while the laws by which the motions of the body follow each other are likewise so coincident with the thoughts of the soul as to give to our *volitions* and *actions* the very same appearance as if the latter were really the natural and the necessary consequence of the former.'

The impossibility of the mind being impressed by objects from without, consequently of anything like a direct action of the one on the other, is deducible from the nature of monads. Complex objects must be composed of simple objects, every body is a collection of units or monads. But these units cannot be penetrated, consequently can receive nothing from without. The soul is a monad, or simple substance, consequently can receive nothing from without. Thus we see that sensation cannot be the effect of an impression of body upon mind, but a change in the state of mind produced in it by its own force.

But what is sensation? By sensation the soul represents to itself the body; now as the soul is simple, and the body composite, sensation is nothing but the representation of the composite in the simple. Sensations, being actions of the soul, must have their sufficient reason, and this is the *representative force*. It is this force which constitutes the essence and nature of the soul.

Every sensation has its sufficient reason in the preceding sensations; every state of the soul is determined by that which precedes and determines that which succeeds it. *Le présent est gros de l'avenir.*

But starting from the present condition of the soul, we arrive at the primitive condition, anterior to all determinations, and this is the representation of the composite in the simple, combined with the representative force. God created the soul with the idea of body, and with the representative force which produces a series of representations each the sufficient reason of the other. By this means the series of states of each soul has been established. It is absurd, therefore, to speak of the soul as a *tabula rasa*. Nothing comes to it from without, all from within.

With such a Method, and with such results, Leibnitz was not likely to lend the aid of his powerful mind in the construction of an inductive Psychology; accordingly we see in him the resolute antagonist of Locke. At first he answered Locke in a few paragraphs of a somewhat supercilious tone. He evidently looked upon the *Essay on the Human Understanding* as not destined to achieve any influential reputation.* This opinion he lived to alter; and in his *Nouveaux Essais sur l'Entendement Humain*, he brought all his forces to bear upon the subject; he grappled with the *Essay*, and disputed the ground with it inch by inch. This remarkable work was not published till many years after his death, and is not included in the edition by M. Dutens. It was unknown to Dugald Stewart; and this fact will explain a passage in his *Dissertation*, where he says that Leibnitz always speaks coldly of Locke's *Essay*. Leibnitz does so in his earlier works; but in the *Nouveaux Essais* he treats his great adversary with due respect, and in the preface speaks of him with eulogy. 'The *Essay concerning Human Understanding*, written by an illustrious Englishman, being one of the finest and most esteemed works of our time, I have resolved to make some comments on it. . . . Thus I shall procure a favourable introduction for my thoughts by placing them in such good company. . . . It is true that I am often of a different opinion; but so far from detracting on that account from the merit of this celebrated writer, that I do him justice in making known in what and wherefore I differ from him, when I judge it necessary to prevent his authority from prevailing over reason on some important points. In fact, although the author of the *Essay* says a thousand things which I must applaud yet our systems greatly differ. His has greater affinity to that of Aristotle,—mine, to that of Plato.' This is the spirit in which the Homeric heroes regard their adversaries; an interchange of admiration for each other's prowess does not deaden one of their blows, but it makes the combat more dignified.

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* See *Réflexion sur l'Essai de M. Locke*, in the *Recueil* of DESMAIZEAUX, vol. ii.

Leibnitz belonged to the Cartesians; but he also mingled with the doctrines of Descartes certain ideas which he had gathered from his commerce with antiquity. Plato, and Democritus especially, influenced him. To a mind thus furnished, the doctrines of Locke must needs have been unwelcome; indeed they could not be expected to gain admission. Moreover, as F. Schlegel observed, every man is born either a Platonist or an Aristotelian.* Leibnitz and

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* COLERIDGE used to pass off this aphorism as his own. It is to be found, however in SCHLEGEL: *Geschichte der Literatur*.

Locke were examples of this antagonism: 'Our differences,' says Leibnitz, 'are important. The question between us is whether the soul in itself is entirely empty, like tablets upon which nothing has been written (*tabula rasa*), according to Aristotle and the author of the *Essay*; and whether all that is there traced comes wholly from the senses and experience; or whether the soul originally contains the principles of several notions and doctrines, which the external objects only awaken on occasions, as I believe with Plato.'

The nature of the problem is well stated here; and Leibnitz sides with Plato in his solution of it. The main arguments by which he supports his view are those so often since repeated of the Universality and Necessity of certain truths, and of the incapacity of experience to furnish us with anything beyond a knowledge of individual cases. 'For if any event can be foreseen before it has been tried, it is manifest that *we* contribute something for our own parts.' *Ergo*, mere experience, it is argued, does *not* constitute all our knowledge. 'The senses, although *necessary* for all actual knowledge, are not sufficient to *give* us all of it; since the senses never can give but examples, that is to say, particular or individual truths. But all the examples which confirm a general truth, however numerous, do not suffice to establish the universal necessity of that truth; for it does not follow that that which has once occurred will always occur in the same way.'

Leibnitz continues: 'Whence it appears that necessary truths, such as we find in mathematics, and particularly in arithmetic and geometry, must have principles of which the proof does not depend upon examples, nor consequently upon the senses, although without the senses one would never have thought of them. So also logic, metaphysics, and morals are full of such truths, and consequently their proofs can only come from those internal principles which are called *innate*.'

Locke would perfectly have agreed with these premisses, but the conclusion he would rightly have rejected. That the senses alone could not furnish us with any general truth, he taught as expressly as Leibnitz did; but this in no way affects his system, for he did not build his system upon the senses alone.

Leibnitz, however, seems to have been misled by Locke's language in the first definition of Reflection; for he says, 'Perhaps the opinions of our able author are not so far from mine as they appear to be. For, after having employed the whole of his first book against innate knowledge taken in a certain sense, he acknowledges in the beginning of the second that there are ideas which do not originate from the senses, but arise from Reflection. Now reflection is nothing but attention to that which passes within us; and *the senses do not convey to us what we already possess within ourselves.* Can it then be denied that there is much innate in the mind?'

The passage in italics is a curious instance of how the mind, preoccupied with its own opinions, sees them reflected in the expressions of others. Leibnitz here assumes the very point at issue; assumes that the mind has innate ideas which the senses cannot convey to it; and this assumption he supposes to be contained in Locke's words. Locke taught precisely the contrary. 'The mind is itself innate,' continues Leibnitz—(to which we reiterate our objection: innate in *what*? In itself? or in us? To say that it is innate in itself is a quibble; that it is innate in *us*, is a displacement of the question: no one in those days doubted that the mind of man was born in man—born with man; the question was, Are there any ideas born *with* the mind, or are all ideas acquired *by* the mind?) 'The mind is itself innate, and there are included in it substance, duration, change, action, perception, pleasure, and a thousand other objects of our intellectual ideas. . . . I have used the comparison of a block of marble which has certain veins in it, rather than a plain piece of marble such as the philosophers call *tabula rasa*; because, if the soul resembled tablets unwritten on, truths would be in us like the figure of Hercules is in the block of marble, when that marble may receive indifferently one figure or another. But if there are veins in the marble which mark the figure of Hercules rather than any other figure, that marble would be more determinate, and the figure of Hercules would in some way be innate, although labour would be necessary to discover the veins, and to free them from their envelopment of marble. Thus are ideas and truths innate in us.'

This is an ingenious statement of the theory: unfortunately for it, the very existence of these veins in the marble is an assumption, and an assumption not made for the facilitating of inquiry, but simply for the proof of the theory assumed: it is an hypothesis framed for the sake of explaining—what?—the hypothesis itself! Ideas are first assumed to be innate; to prove this assumption, another assumption—the existence of innate ideas—is made; and the theory is complete.

The real force of Leibnitz's theory lies in his distinction between contingent and necessary truths, and in his position that experience alone could never furnish us with necessary truths: a position we shall have to examine closely when we come to Kant, who gave it its most authoritative form. The weakness of the theory, as propounded by Leibnitz, is that it makes no consistent distinction between empirical and *à priori* knowledge. Locke had shaken, if he had not shattered, the old assumption of Innate Ideas, by showing that they were deducible from Experience. Leibnitz attempted to meet this by assuming that all knowledge was in truth innate, and that what Locke supposed to be *given in* Experience was simply *evolved by* Experience.* Herein the distinction between necessary and contingent disappears; if all knowledge is innate, all is developed, all stands on equal footing of certainty. Kant perceived the contradiction; but no one before Kant saw how it could be rectified.

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* 'Lorsque vous direz que les idées nous viennent de l'une ou l'autre de ces causes (observation and reflection), je l'entends de leur perception actuelle, car je crois d'avoir montré qu'elles sont en nous avant qu'on s'en aperçoive.'—*Nouveaux Essais*, liv. ii. ch. i. Comp. liv. i.

One passage will suffice to exhibit the contrast between Locke and Leibnitz (*Philalèthe* stands for Locke) :—

'*Philalèthe.*—L'entendement ne ressemble pas mal à un cabinet entièrement obscur, qui n'aurait que quelques petites ouvertures pour laisser entrer par dehors les images extérieurs et visibles, de sorte que si ces images, venant à se peindre dans se cabinet obscur, pouvaient y rester et y être placées en ordre, en sorte qu'on pouvait les retrouver dans l'occasion, il y aurait une grande ressemblance entre ce cabinet et l'entendement humain.

'*Théophile.*—Pour rendre la ressemblance plus grande, il faudrait supposer que dans la chambre obscure il y eût une toile pour recevoir les espèces, qui ne fût pas unie, mais diversifiée par des plis représentant les connaissances innées ; que de plus cette toile étant tendue eût une manière de ressort ou force d'agir, et même une action ou réaction accommodée tant aux plis passés qu'aux nouveaux venus des impressions des espèces.' *

A dispassionate review of the controversy, as conducted by the Sensationalists on the one hand, and the Animists on the other, discloses the incompleteness of both. Locke had but a vague and vacillating conception of the nature of the Understanding upon which the senses traced images, and of the processes by which sensation and ideation were effected. He was forced to admit innate faculties, but had no precise conception of what they were, nor of how they operated. Leibnitz properly objected that these naked faculties, 'les facultés sans quelque acte, en un mot, les pures puissances de l'école, ne sont que des fictions que la nature ne connait point et qu'on obtient en faisant des abstractions.'

But Leibnitz himself, though vindicating the necessary co-operation of the Mind (the co-operation of subject with object, in Kant's phrase), had no precise conception, and was reduced to mere assumption. Because we are born with certain dispositions, and because Thought has certain recognisable conditions, he assumed that we are born with all dispositions, and that all knowledge is simply the awakening of slumbering ideas.

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* *Nouveaux Essais*, liv. ii. ch. xii.

As a corrective to what was precipitate in Locke's psychology, as an energetic protest against what may be called sensuous experience (which disregards the 'organised experience' of the race, and thereby isolates the individual from Humanity), the criticism of Leibnitz was of signal service. In itself it was not of value. The false method on which he proceeded rendered psychological discovery hopeless.* Nevertheless there are certain incidental passages displaying extraordinary acuteness; and there is one contribution to Psychology which I consider of immense value, namely, the distinction between perception and apperception, or, as I have named them, Sense-Consciousness and Thought-Consciousness.† A thorough discussion of this subject ought to find a place in the prolegomena to every system of Psychology.

The problems relating to the origin and scope of Knowledge henceforth occupy the most prominent position in speculation. The solutions offered by Locke were widely accepted. In England and in France, they may be said to have constituted the principia of all theorising. But, as was noted in a previous chapter, they contained within them seeds of Idealism and Scepticism; and these we are now to contemplate in their developed forms.

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* 'Son principe de *la raison suffisante*, très beau et très vrai en lui-même,' says D'ALEMBERT with pleasantry, 'ne parait pas devoir être fort utile à des êtres aussi peu éclairés que nous le sommes sur les raisons premières de toutes choses.' —*Discours Préliminaire de l'Encyclopédie.*

† *Nouveaux Essais*, liv. ii. ch. i. §§.14–19. Compare *Physiology of Common Life*, ii. 74.

# FOURTH EPOCH.

## *The problem of an external world discussed on psychological data.*

## CHAPTER I.

## *BERKELEY.*

### § I. LIFE OF BERKELEY.

THERE are few men of whom England has better reason to be proud than of George Berkeley, Bishop of Cloyne. To extraordinary merits as a writer and thinker, he united the most exquisite purity and generosity of character; and it is still a moot-point whether he was greater in head or heart.

He was born on the 12th of March, 1684, at Kilcrin, in the county of Kilkenny; and educated at Trinity College, Dublin, where, in 1707, he was admitted as a Fellow. In 1709, he published his *New Theory of Vision*, which made an epoch in Science; and the year after, his *Principles of Human Knowledge*, which made an epoch in Metaphysics. After this he came to London, where he was received with open arms. 'Ancient learning, exact science, polished society, modern literature, and the fine arts, contributed to adorn and enrich the mind of this accomplished man. All his contemporaries agreed with the Satirist in ascribing

> To Berkeley every virtue under heaven.

Adverse factions and hostile wits concurred only in loving, admiring, and contributing to advance him. The severe sense of Swift endured his visions; the modest Addison endeavoured to reconcile Clarke to his ambitious speculations. His character converted the satire of Pope into fervid praise. Even the discerning, fastidious, and turbulent Atterbury said, after an interview with him, "So much learning, so much knowledge, so much innocence, and such humility, I did not think had been the portion of any but angels, till I saw this gentleman." '*

His acquaintance with the wits led to his contributing to the *Guardian*. He became chaplain and afterwards secretary to the Earl of Peterborough, whom he accompanied on his embassy to Sicily. He subsequently made the tour of Europe with Mr. Ashe: and at Paris met Malebranche, with whom he had an animated discussion on the ideal theory. In 1724, he was made Dean of Derry. This was worth eleven hundred pounds a year to him; but he resigned it in order to dedicate his life to the conversion of the North American savages, stipulating only with the Government for a salary of one hundred pounds a year. On this romantic and generous expedition he was accompanied by his young wife. He set sail for Rhode Island, carrying with him a valuable library of books, and the bulk of his property. But, to the shame of the Government, be it said, the promises made him were not fulfilled, and after seven years of single-handed endeavour, he was forced to return to England, having spent the greater part of his fortune in vain.

He was made Bishop of Cloyne in 1734. When he wished to resign, the King would not permit him; and being keenly alive to the evils of non-residence, he made an arrangement before leaving Cloyne, whereby he settled 200*l.* a year, during his absence, on the poor. In 1752, he removed to Oxford, where, in 1753, he was suddenly seized, while reading, with palsy of the heart, and died almost instantaneously.

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* Sir J. Mackintosh.

Of his numerous writings we cannot here speak; two only belong to our subject: the *Principles of Knowledge*, and the *Dialogues of Hylas and Philonous*. We hope to remove some of the errors and prejudices with which his name is incrusted. We hope to show that, even in what are called his wildest moods, Berkeley was a plain, sincere, deep-thinking man, not a sophist, playing with paradoxes to display his skill.

## § II. BERKELEY AND COMMON SENSE.

All the world has heard of Berkeley's Idealism; and innumerable 'coxcombs' have vanquished it 'with a grin.' * Ridicule has not been sparing. Argument has not been wanting. Idealism has been laughed at, written at, talked at. It is ludicrous to notice the constant iteration of trivial objections which, trivial as they are, Berkeley had already anticipated. In fact, the critics misunderstood him, and then reproached him for inconsistency—inconsistency, not with *his* principles, but with *theirs*. They forced a meaning upon his words which he had expressly rejected; and then triumphed over him because he did not pursue their principles to the extravagances which would have resulted from them.

When Berkeley denied the existence of matter, he meant by 'matter' that unknown *substratum* the existence of which Locke had declared to be a necessary *inference* from our knowledge of qualities, but the nature of which must ever be altogether hidden from us. Philosophers had assumed the existence of Substance, i. e. of a *noumenon* lying underneath all *phenomena*—a substratum supporting all qualities—a *something* in which all accidents *inhere*. This unknown Substance, Berkeley rejects. It is a mere abstraction, he says. If it is unknown, unknowable, it is a figment, and I will none of it; for it is a figment worse than useless; it is pernicious, as the basis of all atheism. If by matter you understand *that* which is seen, felt, tasted, and touched, then I say matter exists: I am as firm a believer in its existence as anyone can be, and *herein I agree with the vulgar.* If, on the contrary, you understand by matter that occult *substratum* which is *not* seen, *not* felt, *not* tasted, and *not* touched—that of which the senses do not, cannot, inform you—then I say I believe not in the existence of matter, and *herein I differ from the philosophers and agree with the vulgar.*

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* 'And coxcombs vanquish Berkeley with a grin.'—POPE.

'I am not for changing things into ideas,' he says, 'but rather ideas into things; since those *immediate objects of perception* which, according to you (Berkeley might have said, according to all philosophers), are only *appearances of things*, I take to be the real things themselves.

'*Hylas.* Things! you may pretend what you please: but it is certain you leave us nothing but the empty forms of things, the *outside of which only strikes the senses.*

'*Philonous.* What you call the empty forms and outside of things seem to *me* the very things themselves. . . . We both therefore agree in this, that we perceive only sensible forms; but herein we differ: you will have them to be empty appearances: I, real beings. In short, *you do not trust your senses; I do.*'

Berkeley is always accused of having propounded a theory which contradicts the evidence of the senses. That a man who thus disregards the senses must be out of his own was a ready answer; ridicule was not slow in retort; declamation gave itself elbow-room, and exhibited itself in a triumphant attitude. It was easy to declare that 'the man who seriously entertains this belief, though in other respects he may be a very good man, as a man may be who believes he is made of glass; yet surely he hath a soft place in his understanding, and hath been hurt by much thinking.'*

Unfortunately for the critics, Berkeley did *not* contradict the evidence of the senses; in denying a *substratum*, he did

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* Reid: *Inquiry.*

*not* propound a theory at variance with the ordinary belief of mankind. His peculiarity is that he confined himself exclusively to the evidence of the senses. What the senses informed him of, that, and *that only*, would he accept. He held fast to the facts of consciousness; he placed himself resolutely in the centre of the instinctive belief of mankind: there he took his stand, leaving to philosophers the region of supposition, inference, and of occult substances.

The reproach made to him is really the reproach he made to philosophers, namely, that they would not trust to the evidence of their senses; that over and above what the senses told them, they imagined an occult something of which the senses gave no indication. 'Now it was against this metaphysical phantom of the brain,' says an acute critic, 'this crotchet-world of philosophers, and against it alone, that all the attacks of Berkeley were directed. The doctrine that the realities of things were not made for man, and that he must rest satisfied with mere appearances, was regarded, and rightly, by him, as the parent of scepticism with all her desolating train. He saw that philosophy, in giving up the reality immediately within her grasp, in favour of a reality supposed to be less delusive, which lay beyond the limits of experience, resembled the dog in the fable, who, carrying a piece of meat across a river, let the substance slip from his jaws, while with foolish greed he snatched at the shadow in the stream. The dog lost his dinner, and philosophy let go her secure hold upon truth. He therefore sided with the vulgar, who recognise no distinction between the reality and the appearance of objects, and, repudiating the baseless hypothesis of a world existing unknown and unperceived, he resolutely maintained that what are called the sensible shows of things are in truth the very things themselves.'*

True it is that, owing to the ambiguities of language, Berkeley's theory does seem to run counter to the ordinary belief of mankind, because by Matter men commonly understand the Seen, the Tasted, the Touched, etc.; therefore when the existence of Matter is denied, people naturally suppose that the existence of the Seen, the Tasted, and the Touched, is denied; never suspecting that Matter, in its philosophical sense, is the *not* seen, *not* tasted, *not* touched. Berkeley, it must be confessed, has insufficiently guarded against all ambiguity. Thus he says in one of the opening sections of his *Principles of Human Knowledge*, that 'It is indeed *an opinion strangely prevailing amongst men* that houses, mountains, rivers, and, in a word, all sensible objects, have an existence, natural or real, distinct from their being perceived by the understanding.' This is striking a false key-note. It rouses the reader to oppose a coming paradox. Yet Berkeley foresaw and answered the objections which Wimpey, Beattie, Reid, and others brought forward. He was not giving utterance to a caprice; he was not spinning an ingenious theory, knowing all the while that it was no more than an ingenuity. He was an earnest thinker, patient in the search after truth. Anxious, therefore, that his speculations should not be regarded as mere dialectical displays, he endeavoured on various occasions to guard himself from misapprehension.

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* *Blackwood's Mag.* June 1842, p. 814, art. 'Berkeley and Idealism:' understood to have been written by Professor FERRIER.

'I do not argue against the existence of any one thing that we can apprehend either by sensation or reflection. *That the things I see with my eyes and touch with my hands do exist, really exist, I make not the least question. The only thing whose existence I deny is that which philosophers call Matter, or corporeal substance.* And in doing this there is no damage done to the rest of mankind, who, I dare say, will never miss it. . . .

'If any man thinks we detract from the reality or existence of things, he is very far from understanding what has been premised in the plainest terms I could think of. . . . It will be urged that thus much at least is true, viz. that we take away all corporeal substances. To this my answer is that, if the word *substance* be taken in the vulgar sense, for a combination of sensible qualities, such as extension, solidity, weight, etc., this we cannot be accused of taking away.* But if it be taken in the philosophic sense, for the support of accidents or qualities without the mind; then, indeed, I acknowledge that we take it away, if one may be said to take away that which never had any existence, not even in the imagination.† But say what we can, some perhaps may be apt to reply, he will still believe his senses, and never suffer any arguments, however plausible, to prevail over the certainty of them. Be it so: assert the evidence of sense as high as you please, *we are willing to do the same.* That what I see, hear, and feel, doth exist, i.e. is perceived by me, I no more doubt than I do of my own being; *but I do not see how the testimony of sense can be alleged as a proof of anything which is not perceived by sense.*'‡

After reading these passages (and more of a similar cast might be quoted), in what terms shall we speak of the works written to refute Idealism? Where was the acuteness of the Reids and Beatties, when they tauntingly asked why Berkeley did not run his head against a post, did not walk over precipices, etc., as, in accordance with his theory, no pain, no broken limbs could result?§ Where was philosophical acumen, when writers could imagine they refuted Berkeley by an appeal to common sense—when they contrasted the instinctive beliefs of mankind with the speculative paradoxes of a philosopher, who expressly took his stand beside common sense against philosophers?

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* An answer to Dr. JOHNSON's peremptory refutation of BERKELEY, viz. kicking a stone: as if Berkeley ever denied that what we called stones existed!

† This is not well said. That substance was *imagined* to exist (as a support of accidents), Berkeley's argument supposes: it is against such an imaginary existence he directs his attacks. Perhaps he means that no *image* of substance could be formed in the mind; which no one disputes.

‡ *Principles of Human Knowledge*, §§ 35–37, 40.

§ 'But what is the consequence? I resolve not to believe my senses? I break my head against a post that comes in my way: I step into a dirty kennel; and after twenty such wise and rational actions I am taken up and clapt into a madhouse. Now I confess I had rather make one of those credulous fools whom nature imposes upon than of those wise and rational philosophers who resolve to withhold assent at all this expense.'—REID: *Inquiry*, ch. iv. § 20. This one passage is as good as a hundred.

Men trained in metaphysical speculations may find it difficult to conceive the non-existence of an invisible unknowable substratum; but that the bulk of mankind find it almost impossible to conceive any such substratum is a fact which the slightest inquiry will verify. I once held a discussion which lasted an entire evening, in which by no power of illustration, by no force of argument, could the notion of this substance, apart from its sensible qualities, be rendered conceivable to my antagonist.

Berkeley, therefore, in denying the existence of matter, sided with common sense. He thought, with the vulgar, that matter was that of which his senses informed him; not an occult something of which he could have no information. The table he saw before him certainly existed: it was hard, polished, coloured, of a certain figure, and cost some guineas. But there was no *phantom table* lying underneath the *apparent table*—there was no invisible substance supporting that table. What he perceived was a table, and nothing more; what he perceived it to be, he would believe it to be, and nothing more. His starting-point was thus what the plain dictates of his senses, and the senses of all men, furnished.

## § III. Idealism.

The first step which a philosopher takes in any inquiry is a departure from Common Sense. Reflecting upon what his senses convey to him, he seeks an explanation of phenomena: and it is in proportion to the care with which he analyses the facts to be explained that he is usually supposed to be free from the mere extravagances of speculation. And yet Berkeley's analysis of the facts of Consciousness (as Consciousness is commonly understood by philosophers) has obtained for him the reputation of being one of the most extravagant of speculators.

This is the problem: our senses inform us of the existence of certain sensible qualities, such as extension, colour, solidity, etc. But our reason tells us that these qualities must be qualities *of* something: they cannot exist as mere extension, colour, etc.: there must be something extended, coloured, etc. What is that something? The solution given by the philosophers was uniformly this: *what* that substance is, we can never know, because it lies beyond our apprehension; but we are forced to admit it, as a support to the qualities which we do apprehend, as a substance in which sensible qualities inhere. So that, deeply considered, the only reason for inferring the existence of Matter is *the necessity for some synthesis of attributes.*

Now, what did Berkeley? With very subtle perception of the difficulties of the problem, he boldly solved it by *making the synthesis a mental one.* Thus was matter wholly got rid of; it had no longer the excuse of being a necessary inference.

The nature of human knowledge is the first object of his inquiry. 'It is said that the faculties we have are few, and those designed by Nature for the support and pleasure of life, and not to penetrate into the inward essence and constitution of things. Besides, the mind of man, being finite, when it treats of things which partake of infinity, it is not to be wondered at if it run into absurdities and contradictions, out of which it is impossible it should ever extricate itself, it being of the nature of infinite not to be comprehended by that which is finite.'

This is plainly enough launched at Locke; but the worthy Bishop has no such disposition 'to sit down in quiet ignorance.' He suspects that 'we may be too partial in placing the fault originally in our faculties, and not rather in the wrong use we make of them.' He believes that God is too bountiful not to have placed knowledge within our reach of which he has given us the desire. Berkeley here forgets the lesson man was taught in Paradise, where the Tree of Knowledge was placed within his reach, but the fruits thereof forbidden him. 'Upon the whole,' continues Berkeley, 'I am inclined to think that the far greater part, if not all, the difficulties which have hitherto amused philosophers, and blocked up the way to knowledge, are entirely owing to themselves. That we have first raised a dust, and then complain we cannot see.'

The pretension on which all philosophy is founded is here openly proclaimed. The consequences of Locke's doctrine are rejected; the premisses are retained. Berkeley's account of the origin of knowledge is the same as Locke's, only somewhat more explicitly defined. 'It is evident to anyone who takes a survey of the objects of human knowledge that they are either ideas actually imprinted on the senses or else such as are perceived by attending to the passions and operations of the mind: or, lastly, ideas formed by help of memory and imagination, either compounding, dividing, or barely representing those originally perceived in the aforesaid ways.'

Remark, firstly, that the *objects* of knowledge are said to be *ideas*. This has a paradoxical air to those unaccustomed to metaphysics, yet it is the simple expression of the facts of consciousness. All that the mind can be conversant about is obviously its ideas: we are conscious of nothing but the changes that take place in our minds. Whether these ideas are the *copies* or *representatives* of any *things*—whether changes in our state are to be attributed to any external *cause*: this is a question of philosophy—a question which common sense makes no scruple of begging. You see before you a flower, and you assume that an external thing resembling that flower exists, and that your sensation is produced by it, as a reflection in a mirror is produced by an object out of the mirror. But dive deeper into consciousness; interrogate yourself, and you will find that the comparison of the mirror is an assumption made only to explain the facts of consciousness, not given *in* those facts. Moreover, granting the assumption, you will then make the mind immediately conversant with its ideas *only*; for assuming that objects reflect themselves in the mirror, the mirror itself knows only the reflections: these it knows immediately; the objects it knows mediately, i.e. through the reflections. Thus is Berkeley keeping rigorously to the facts of consciousness when he says that the 'objects of knowledge are ideas.'

Secondly, remark on Berkeley's use of the word idea, which stands both for sensation and idea. We cannot but regard this confusion of language as the cause of no little misapprehension of his doctrines. 'That neither our thoughts, nor passions, nor the ideas formed by our imagination, exist without the mind is what everybody will allow; and to me it is no less evident that the various sensations or ideas imprinted on the sense, however blended or combined together (*that is, whatever objects they compose*), cannot exist otherwise than in a mind perceiving them. . . . The table I write on, I say, exists, i. e. I see it, and feel it, and if I were out of my study, I should say it existed; meaning thereby that, if I was in my study, I might perceive it, or that some other spirit actually does perceive it. As to what is said about the existence of unthinking things, without any relation to their being perceived, that is to me perfectly unintelligible. Their *esse* is *percipi*; nor is it possible they should have any existence out of the minds or thinking things which perceive them.'

It is in this last paragraph that the kernel of his system lies. He had identified objects with ideas: having done so, it was easy to prove that objects could not exist without a perceiving mind *in* which to exist as ideas. 'For what are the objects but the things which we perceive by sense?' Realism assents: objects are what we perceive. 'And *what*, I pray you,' continues Berkeley, 'do we perceive besides our own ideas or sensations?' Realism hesitates; certainly the mirror has nothing immediately present to it besides the reflections. 'And is it not plainly repugnant,' triumphantly continues Idealism, 'that any one of these ideas, or any combination of them, should exist unperceived?' Realism has no answer to offer. It is in a dilemma from which there is apparently no escape.

The supposition of the existence of matter is founded on the doctrine of abstract ideas (against which Berkeley wages war). 'For can there be a nicer strain of abstraction than to distinguish the existence of sensible objects from their being perceived, so as to conceive them existing unperceived? Light and colours, heat and cold, extension and figures—in a word, *the things we see and feel*—what are they but so many sensations, notions, ideas, or impressions on the sense; *and is it not impossible to separate, even in thought, any of these from perception?* For my part, I might as easily divide a thing from itself. I may indeed divide in my thoughts, or conceive apart from each other, those things which perhaps I never perceived by sense so divided. Thus I imagine the trunk of the human body without the limbs, or conceive the smell of a rose without thinking of the rose itself. So far I will not deny that I can abstract, if that be properly called abstraction which extends only to the conceiving separately such objects as it is possible may really exist, or be actually perceived asunder; but my conceiving or imagining power does not extend beyond the possibility of real existence or perception. Hence, as it is impossible for me to see or feel anything without an actual sensation of that thing, so it is impossible for me to conceive in my thoughts any sensible thing or object distinct from the sensation or perception of it. In truth, the object and the sensation are the same thing, and cannot therefore be abstracted from one another. . . . .

'In a word, all the choir of heaven and furniture of earth —all those bodies which compose the mighty frame of the world—have not any subsistence without a mind: their *esse* is to be perceived or known; and consequently, so long as they are not actually perceived by me, or do not exist in my mind, or that of any other created spirit, they must either have no existence at all, or else subsist *in the mind of some eternal spirit*. . . .

'Though we hold indeed the objects of sense to be nothing else but ideas which cannot exist unperceived, yet we may not hence conclude they have no existence except only while they are perceived by us, since there may be some other spirit that perceives them, though we do not. Whenever bodies are said to have no existence without the mind, *I would not be understood to mean this or that particular mind, but all minds whatsoever.* It does not therefore follow that bodies are annihilated and created every moment, or exist not at all during the intervals between our perception of them. . . .

'I am content to put the whole upon this issue: if you can but conceive it possible for one extended movable substance, or in general for any one idea, or anything like an idea, to exist otherwise than in a mind perceiving it, I shall readily give up the cause; I shall grant you its existence, though you cannot either give me a reason why you believe it exists, or assign any use to it when it is supposed to exist. I say the bare possibility of your opinion being true shall pass for an argument that it is so.

'But say you, surely there is nothing easier than for me to imagine trees in a park, or books in a closet, and nobody by to perceive them. I answer, you may so: there is no difficulty in it. But what is all this, I beseech you, more than *framing in your mind certain ideas* which you call books and trees, and at the same time *omitting to frame the idea of anyone perceiving them*?

'But do not *you yourself perceive or think of them all the while*? This therefore is nothing to the purpose: it only shows you have the power of imagining or framing ideas in your mind, but it does not show that you can conceive it possible the objects of your thought may exist without the mind. To make out this, it is necessary that you conceive them existing unperceived or unthought of, which is a manifest repugnancy. When we do our utmost to conceive the existence of external bodies, we are *all the while only contemplating our own ideas.*' *

The last very remarkable passage must have been overlooked by the critic before mentioned, otherwise he would not have said that the 'knot which Berkeley loosened, but which he certainly did not explicitly untie,' was to be resolved, for the first time, by the arguments he there brings forward. Berkeley had untied the knot, explicitly, satisfactorily; and that too in the same way as his critic.*

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* The foregoing passages are all taken from the *Principles of Human Knowledge*, §§ 5, 6, 8, 22, and 23.

The distinction between *primary* and *secondary* qualities, Berkeley easily refutes, and shows that the same arguments which make the secondary qualities to be only affections of the mind may be applied to the primary qualities.

Having battered down almost every objection, trivial or serious, that could be offered, Idealism iterates its fundamental principle:—All our knowledge of objects is a knowledge of ideas; objects and ideas are the same. *Ergo*, nothing exists but what is perceived.

Realism espies a loophole. These ideas, with which we admit the mind to be solely conversant, are but the ideas (images) of certain things: these things exist independently of being perceived, though their ideas cannot. Berkeley foresaw this also. 'But, say you, though the ideas themselves do not exist without the mind yet there may be things like them whereof they are copies or resemblances, which things exist without the mind in an unthinking substance. I answer, *an idea can be like nothing but an idea*; a colour or figure can be like nothing but another colour or figure. Again, I ask whether those supposed originals or external things, of which our ideas are the pictures or representations, be themselves perceivable or no? If they are, then they are ideas, and we have gained our point; but if you say they are not, I appeal to anyone whether it be sense to assert a colour is like something which is invisible; hard or soft, like something which is intangible?' (Sect. 8.)

Realism is without a shadow of an answer. The philosophers are powerless against a theory so defended. No wonder that Idealism should have been pronounced irrefutable; the weapons were not forged, or, at any rate, were not in the armoury of Philosophy, which could successfully assail a fortress built on such a position. Dr. Reid's attempt we shall examine by and by.

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* See the article in *Blackwood*, already cited, p. 817, *et seq.*

As far as the simple facts of *adult* Consciousness extend, the analysis given by Berkeley is unimpeachable, unless we deny that Consciousness is immediately affected by sensations, and assert that it is immediately affected by external objects; but no metaphysician will take up this position, for it would lead him to maintain that Consciousness *is* nothing but these very sensations, which are produced in the organism by the action of external influences; and this would be getting rid of the substratum Mind, in order to rescue the substratum Matter. No metaphysician therefore ever could, logically, object to Berkeley's fundamental position; but only tried to elude it, or make it open into other issues.

The question whether Consciousness is anything over and above its acts, whether in Sensation and Ideation there is feeling *and* consciousness of feeling, and thinking *and* consciousness of thinking, or whether the two phrases express but one fact, may be considered as settled by modern psychologists, since Brown. Yet the old notion of a duplicate consciousness, attendant upon each act of consciousness (a feeling of feeling, to translate it into precise language), still crops up even in modern speculations. And it must continue to do so until the notion of Mind as an Entity is altogether banished. Thus in a striking article recently devoted to Mr. Mill's 'Examination of Hamilton,' * which clearly states the cause of much metaphysical confusion, and distinctly enough repudiates the old dualism, we read: 'In all knowledge there is a duality—the mind knowing and the thing known; but the mind always knows, and is never known; it is ever the subject of consciousness, and never the object of it. Because it is one, it cannot be the other.' I entirely agree with this, if instead of the 'mind knowing' be substituted 'the process of knowing:' a process can only be a process; but 'mind'—if conceived as an entity—may have any imaginary powers we choose to assign it: a fictitious creation may have any fictitious attributes.

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* *Edinburgh Review*, July 1866.

The real battlefield is, therefore, that of Dualism. Are there two distinct existences, Mind, on the one hand, and Matter, on the other: Mind in no respect allied with Matter, yet acted on by it, and representing it? The Idealist says, There is but one existence, Mind. Analyse the concept Matter, and you will discover that it is nothing but a synthesis of qualities; the qualities are sensations, the synthesis is mental.

The Realist, if consequent, will say, There is but one existence, Matter. Analyse your concept of Mind, and you will discover that it is nothing but a synthesis of qualities (states of consciousness); the qualities are activities of the vital organism; the synthesis is the organism.

The Sceptic agrees with both, and disagrees with both, and says: Your Matter is but a fleeting succession of phenomena, your Mind is but a fleeting succession of ideas.

The Dualist says: There is both Mind and Matter: the two are in essence distinct, and never can be brought into union; but the Mind has the capability of being acted on by Matter, the result of which is a representation within it of that which is without it: and it has, moreover, a power of acting on Matter, the result of which is—I don't exactly know what, but, at any rate, it is indicated by certain motions of Matter. If you ask me, How two existences thus essentially distinct, having no quality in common, can nevertheless act on each other? I answer: It is a mystery.

A mystery, no doubt. But Philosophy cannot be satisfied with phrases. It wants precise data. The dualistic hypothesis has the disadvantage of introducing two factors, without in the least assisting us. Idealism taking firm hold of one of these factors, Mind, explains phenomena quite as lucidly as Dualism with its two factors. Realism does the same with its one factor, Matter. Philosophy has to decide between them.

It has been well said by Mr. Herbert Spencer that the denial of an external world 'consists of a series of dependent propositions no one of which possesses greater certainty than the single proposition to be disproved.' * If the grounds of our belief in an external world are questionable, what better grounds have we for the belief that the external world is a mere subjective phenomenon?

We are to settle whether it is a more plausible hypothesis that ideas are proximately produced in us by the mere Will of the Creator, whose will is effected by certain laws; or whether the ideas are proximately produced in us by external objects, which exist quite independently of us. This question, remember, is one which admits of no proof. It is not a question of fact, but of inference. It is not to be decided by common sense, but by analogical reasoning. Our knowledge extends no further than our ideas. Our inferences can be nothing more than inferences.

Berkeley has far better reasons for his inference than his critics generally imagine. He could not see the force of the argument which made Matter a necessary postulate. That we *could* have sensations and ideas without the presence of external objects is manifest from the fact that we *do* often have them, as in dreams and frenzies. If therefore matter is not always necessary for the production of ideas—if ideas can be sometimes produced without the presence of external objects—the pretended necessity, which alone forms the argument for the existence of matter, is done away with.

'But though,' he says, 'we might possibly have all our sensations without bodies, yet perhaps it may be thought easier to conceive and explain the manner of their production by supposing external bodies in their likeness rather than otherwise, and so it might at least be probable there are such things as bodies that excite ideas in our minds. But neither can this be said, for though we give the Materialists their external bodies, they, by their own confession, are never nearer the knowing how our ideas are produced, since they own themselves unable to comprehend in *what*

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* *Principles of Psychology*, p. 36.

*manner body can act upon spirit*, or how it is possible it should imprint an idea in the mind.'

We have here the difficulty stated, which most Dualists (those who maintain the existence of spirit and matter, as distinct substances) have not been sufficiently alive to; and one which gave rise to Leibnitz's theory of pre-established harmony, and to Malebranche's theory of our seeing all things in God. This difficulty is indeed insuperable. It is easy to talk of the spirit being a mirror in which the universe reflects itself. Try for an instant to imagine a substance such as matter reflecting itself in, or acting upon, another substance having no one property in common with it. You cannot. Nor is this all: you cannot even imagine two substances so distinct as matter and spirit are defined to be.

Berkeley then is right in triumphing over Realism and Dualism. Right in saying that, if he were to accord them the existence of Matter, they could make no use of it. The subject would remain as dark as before: Matter throws no light on it. He maintains that our ideas are produced in us conformably with the laws of Nature. These laws have been ordained by God. To suppose that Matter is the mere occasional cause—*the vehicle through which the laws of Nature operate*—is gratuitous. The agency of the Creator is more simple and direct. He had no need of creating first laws, and afterwards Matter, through which these laws should come into effect. He created the laws alone; they act upon us as they were destined to act, and without the superfluous aid of Matter, which is a mere go-between.

Mr. Herbert Spencer has argued that Berkeley's hypothesis is a logical suicide; that the Universal Postulate, or the fundamental assumption which is itself the ultimate test of every speculation, namely, the inconceivability of the negative, is violated by Idealism. But an Idealist might reply: all that your Postulate implies is that Something external to my consciousness exists; Something which is not me, but affects me. I admit this. But I prove that this external Something cannot be *per se* what it is to my consciousness, because I necessarily mingle my own nature with the objects which affect me; and I cannot separate the subjective from the objective elements, nor could Kant, though he tried it.

What then is granted? That Something exists. I cannot know this Something otherwise than under the subjective conditions of knowledge, I cannot therefore describe it, except through its influence on me. I am quite at liberty to suppose this Something to be only the Mode in which, and through which, the Deity affects me. You would also be at liberty to suppose it to be self-existent Matter; only that supposition leads to atheism, and is therefore convicted of error.

Now, as an inference—as an hypothesis—few thoroughly acquainted with the question, and with the data on which it was founded, can, we think, deny that this of Berkeley is many degrees superior to the hypothesis of Dualism. While most philosophers teach that there are two distinct eternal substances, which they name Spirit and Matter, Berkeley teaches that there is only *one* substance, viz. Spirit. With this one substance he can construct the world. According therefore to the fundamental rule in philosophy, that 'Entities or existences are not to be multiplied unless upon necessity' (*entia non sunt multiplicanda præter necessitatem*), the introduction of a second substance, Matter, is superfluous, or worse. Of its existence we have no proof whatever: it is a mere inference; it is inferred in order to explain the phenomena: and what phenomena? those of perception—i. e. the phenomena of the thinking substance.

If, then, Berkeley is more rigorous in his analysis of facts, and more ingenious and plausible in his hypothesis, than his antagonists suppose, shall we pronounce his Idealism satisfactory and true?

Hume said of it that it admitted of no answer, but produced no conviction. And there has been no final refutation of it. Yet, inasmuch as it is the irresistible belief of mankind that objects are not dependent for their existence either upon our perception of them or upon the perception of any other mind—that objects exist *per se*, and would continue to exist if all minds were annihilated—Berkeley's theory never can produce conviction. Reid therefore was right in standing by this universal and irresistible belief. He was egregiously wrong, however, in supposing that he answered Berkeley by an appeal to this irresistible belief. This appeal, so loudly proclaimed by the Scotch school,* is rejected by several thinkers. The belief that the sun revolved round the earth was for many centuries irresistible, and false. Why may not Berkeley have been a metaphysical Copernicus, who, by rigorous demonstration, proved the belief of mankind in the existence of matter to be irresistible and false? Reid has no answer to give. He can merely say, 'I side with the vulgar;' but he might have given the same answer to Copernicus. Many illustrious men (Bacon among them) ridiculed the Copernican theory: but all the dogmatism, ridicule, and common sense in the world could not affect that theory. Why, we repeat, may not Berkeley have been a metaphysical Copernicus?

To prove that he was not, you must prove his reasoning defective; to prove this, you must show wherein his error lies, and not wherein his theory is at variance with your belief. All that your irresistible belief amounts to is that of a strong, a very strong, presumption against the truth of that which opposes it. Reid, in accepting this presumption as a proof, was in the right so long as Berkeley's reasoning was not strong enough to overcome it: but singularly wrong in supposing that the presumption was a refutation.

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* Especially by Dr. BROWN, who says that the 'sceptical argument for the non-existence of an external world, as a mere play of reasoning, admits of no reply.' The only reply he makes is that the belief is irresistible. HUME had already admitted that the belief was irresistible; the whole scope of his philosophy was to prove it both irresistible and *false*. How absurd then to appeal to the belief! KANT truly observes, in the preface to his *Kritik*, 'Admitting Idealism to be as dangerous as it really is, it would still remain a shame to philosophy and reason to be forced to ground the existence of an external world on the (mere) evidence of belief.' The more so as the fact of belief had never been questioned. The question was, Is the belief well grounded?

Berkeley's main position is that the *objects of knowledge are ideas, and nothing but ideas.* The position is incontrovertible. The conclusion therefore: *all human knowledge can only be the knowledge of ideas, and of nothing but ideas,* is equally incontestible. Not less so the second conclusion: *objects being identified with ideas, and we having no idea of an object but as it is perceived, the* ESSE *of objects to us is* PERCIPI.

In admitting all this, what do we admit? Simply that human knowledge is not the 'measure of all things.' Objects *to us* can never be more than ideas; but are *we* the final measure of all existence? Because we can only *know* objects as ideas, is it a proper conclusion that objects only *exist* as ideas? Objects subtend certain angles to our consciousness; because we can only see them under these angles, is it logical to conclude that they are only these angles? For this conclusion to be rigorous, we must have some proof of our knowledge being the absolute standard of truth, instead of the standard of the relation things bear to our intellect.

The Idealist will say, 'If you cannot *know* anything beyond your ideas, why do you infer that there *is* anything?' —A question not easily answered. He will, moreover, say, 'I defy you to conceive anything existing unperceived. Attempt to imagine the existence of matter when mind is absent. You cannot, for in the very act of imagining it, you include an *ideal percipient.* The trees and mountains you imagine to exist away from any perceiving mind, what are they but the very ideas of *your* mind, which you transport to some place where you are not? In fact, to separate existence from perception is radically impossible. It is God's synthesis, and man cannot undo it.'*

To this one may answer, It is very true that, inasmuch as our knowledge of objects is identical with our ideas, we can never, by any freak of thought, imagine an object *apart from the conditions under which we know it.* We are forced by the laws of our nature to invest objects with the forms in which we perceive them.[*] We cannot therefore conceive anything which has not been subject to the laws of our nature, because in the very act of conception those laws come into play. But is it not a very different proposition to say, 'I cannot conceive things otherwise than according to the laws of my nature,' and to say, 'I cannot conceive things otherwise, *consequently* they cannot exist otherwise?' The Idealist here assumes that knowledge is absolute, not relative—that man is the measure of all things.

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* See this argued in a masterly manner by the critic in *Blackwood,* before quoted.

Perception is the *identity* of the ego and the non-ego—the relation of two terms, the *tertium quid* of two united forces; as water is the identity of oxygen and hydrogen. The ego can never have any knowledge of the non-ego in which it (the ego) is not indissolubly bound up; as oxygen can never unite with hydrogen to form water without merging itself and the hydrogen in a *tertium quid*. Let us suppose the oxygen to be a process of consciousness, i.e. a feeling of changes. It would attribute the change *not* to hydrogen, which is necessarily hidden from it, *but to water*, the only form under which hydrogen is known to it. In its consciousness it would find the state named water, which would be very unlike its previous state; and it would suppose that this state, so unlike the previous one, was a representation of that which caused it. We say then that, although the hydrogen can only exist for the oxygen (in the above case) in the identity of both as water, this is no proof that hydrogen does not exist under some other relations to *other* gases. In like manner, although the non-ego cannot exist in relation to mind otherwise than in the identity of the two (perception), this is no sort of proof that it does not exist in relation to other beings under quite different conditions.

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[*] 'When in perception,' says SCHELLING, 'I represent an object, *object and representation are one and the same.* And simply in this our inability to discriminate the object from the representation during the act lies the conviction which the common sense of mankind has of the reality of external things, although these become known to it only through the representations.'—*Ideen zu einer Philos. der Natur*, Einleitung, p. xix. (quoted by Sir W. HAMILTON.) This is indisputable, but it is only saying that our knowledge of things is subject to the conditions of knowledge. Because we cannot discriminate between the object and the representation, it is no proof that there is no distinction between them.

In conclusion, we admit, with the Idealists, that all our *knowledge* of objects consists in our ideas. But we cannot admit that all existence is limited by our knowledge, merely on the ground that, when we could conceive anything existing, we are forced to conceive it in accordance with the laws of our conceptive faculties. We admit, with the Idealists, that our knowledge is *subjective*. But we do not admit that what is true subjectively is true objectively. We believe in the existence of an external world quite independent of any percipient; the arguments by which Idealism would controvert it are vitiated by the assumption of knowledge being a criterion of existence. Idealism agrees with Realism in placing reliance on the evidence of consciousness; it argues however that, inasmuch as our *knowledge* is confined to ideas, we have no right to assume anything beyond ideas. Yet it also is forced to assume something as the cause of ideas: this cause it calls the Will of the Creator; and this is an assumption. The real dispute therefore should be concentrated on this point: Which assumption is more consonant with our irresistible belief—the assumption of external objects independent of our sensations; or the assumption of a providential scheme, in which our sensations are the effects of the operation of Divine laws, and in which objects play no part? The answer cannot be dubious. The former assumption, as more consonant with universal belief, must be accepted.

Berkeley, we believe, failed as a metaphysical Copernicus, because the assumption which he opposed to the universal belief was less consonant with that belief than the assumption it was meant to replace. Had Copernicus not started an hypothesis which, however contradictory to the senses, nevertheless afforded a much better explanation of celestial phenomena than was possible on the old hypothesis, he would not have been listened to. Berkeley's assumption, if conceded, carries him no deeper than the old assumption. Idealism explains nothing. To accept it would be to renounce a universal belief for a mere hypothesis.

Berkeley was a deep and remarkable thinker; and he failed, as the greatest thinkers of all times have failed, not because he was weak, but because Ontology is impossible.

Those who have followed the course of this History with attention will not fail to observe how Berkeley's Idealism is at bottom the much decried system of Spinoza, who taught that there was but one essence in the universe, and that one Substance. Berkeley also taught that there was but one, and that one Thought. Now call this One what you will, the result is the same: speculatively or practically. There may be certain degrading associations attached to the idea of substance; or certain exalted associations attached to that of spirit. But what difference can our associations make with respect to the real nature of things?

One great result of Berkeley's labours was the lesson he taught of the vanity of ontological speculations. He paved the way to that Scepticism which is the terminal morass of all consistent Metaphysics.

# FIFTH EPOCH.

## *The arguments of Idealism carried out into Scepticism.*

## CHAPTER I.

### *HUME.*

### § I. Life of Hume.

MR. BURTON'S ample and excellent biography* would furnish materials for a pleasant memoir, could we here afford the requisite space; but we must content ourselves with referring the reader to that work, merely recording the principal dates and events of an uneventful life.

David Hume was born at Edinburgh, April 26, 1711; the youngest child of a poor laird of good blood. He was an orphan before his education was completed. His guardians first thought of the profession of law, but, owing to his repugnance, he was absolved from that career, and was placed in a Bristol counting-house, where he did not remain long. On coming of age, he found himself in possession of a small property, too small for honourable subsistence in England, but large enough for France; and he went to Rheims; from thence to La Flèche, where the Jesuits' college and library were great attractions to the studious youth; there he passed several years in solitary study.

A great ambition moved him: he was to accomplish for moral science a revolution analogous to that which Bacon had effected in physical science. His *Treatise on Human Nature*, which appeared in 1737, was announced as an attempt to introduce the Experimental Method into reasonings on moral science. It is needless to point out the profound misconception of the Experimental Method here implied; nor is it necessary to show at any length that there was no novelty whatever in Hume's attempt to test Psychology by experience.

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* John Hill Burton: *The Life and Correspondence of David Hume, from the Papers bequeathed to the Royal Society of Edinburgh*, 2 vols.

In 1741 appeared the first part of his immortal *Essays*; and in 1747 he accompanied General St. Clair, as secretary, in the embassy to Vienna and Turin. In 1752 he published his *Political Discourses* and the *Inquiry concerning the Principles of Morals*. The appointment of Librarian to the Faculty of Advocates in Edinburgh—the salary of which he generously gave to the poor poet Blacklock—placed at his disposal a fine collection of books; and this suggested the undertaking which has long been held his greatest title to fame—the *History of England*, the first volume of which appeared in 1754.

For the literary historian there are two piquant episodes in the life of Hume. The first is the ovation given to the philosopher in Paris, whither he had accompanied the Marquis of Hertford; the second is his friendship and quarrel with Rousseau. Both are copiously narrated by Mr. Burton.

Hume died in the spring of 1776, leaving a name imperishable in our literature, although it is a name attached to opinions which have roused, and will continue to rouse, vehement opposition. In considering this it should never be forgotten that so wise and good a man as Adam Smith could publicly write of him, 'Upon the whole, I have always considered him, both during his lifetime and since his death, as approaching as nearly to the idea of a perfectly wise and virtuous man as perhaps the nature of human frailty will permit.'

## § II. HUME'S SCEPTICISM.

The marvellous acuteness and subtlety of Hume have never been denied. His influence upon speculation has been aided as much by the alarm his doctrines excited as by the ingenuity with which they were upheld. If Berkeley met with no refuters, Hume could meet with none. Antagonists have generally been compelled to admit that the sceptical reasoning was unanswerable.

Locke had shown that all our knowledge was dependent upon experience. Berkeley had shown that we have *no* experience of an external world independent of perception; nor could we have any such experience. He pronounced Matter to be an abstraction. Hume took up the line where Berkeley had cast it, and flung it once more into the deep sea, endeavouring to fathom the mysteries of Being. Probing deeper in the direction Berkeley had taken, he found that not only was Matter an abstraction, Mind was an abstraction also. If the occult substratum, which men had inferred to explain material phenomena, could be denied, because not founded on experience; so also, said Hume, must we deny the occult substratum (Mind) which men have inferred to explain mental phenomena. All that we have any experience of is impressions and ideas. The substance *of* which these are supposed to be impressions is occult—is a mere inference; the substance *in* which these impressions are supposed to be is equally occult—is a mere inference. Matter is but a collection of impressions. Mind is but a succession of impressions and ideas.*

Thus was Berkeley's dogmatic Idealism converted into Scepticism. Hume, speaking of Berkeley, says, 'Most of the writings of that very ingenious philosopher form the best lessons of scepticism which are to be found either among the ancient or modern philosophers, Bayle not excepted. He professes, however, in his title-page (and undoubtedly with great truth), to have composed his book against the Sceptics, as well as against the Atheists and Free-thinkers. But that all his arguments, though otherwise intended, are in reality merely sceptical appears from this, that they admit of no answer, and produce no conviction.'

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* LOCKE had already shown that we are as ignorant of spirit as of substance. We know mind only in its *manifestation*; we cannot know it *per se* as a *substratum*. HUME's argument, therefore, had a firm foundation in the current philosophy. He only concluded from admitted premisses.

Remark also that Hume's scepticism, though it reduces Philosophy to a singular dilemma,—namely, that of either refuting the sceptical arguments, or of declaring itself and its pretensions to be vain and baseless,—nevertheless affects in no other way the ordinary judgments or actions of mankind. Much stupid ridicule and frivolous objection have been, and probably will continue to be, brought against Hume. Reid, from whom one might have expected something better, is surprised at Hume's pretending to construct a science upon human nature, 'when the intention of the whole work is to show that there is neither human nature nor science in the world. It may perhaps be unreasonable to complain of this conduct in an author who neither believes his own existence nor that of his reader; and therefore could not mean to disappoint him, or laugh at his credulity. Yet I cannot imagine that the author of the *Treatise on Human Nature* is so sceptical as to plead this apology. He believed, against his principles, that he should be read, and that he should retain his personal identity, till he reaped the honour and reputation justly due to his metaphysical acumen.' He continues further in this strain, dragging in the old error about Pyrrho having inconsistently been roused to anger by his cook, 'who probably had not roasted his dinner to his mind,' and compares this forgetfulness to Hume's every 'now and then relapsing into the faith of the vulgar.'*

If this was meant for banter, it is very poor banter; if for argument, it is pitiable. But since such arguments appeared valid to a thinker of Reid's reputation, it is reasonable to suppose that inferior men may also receive them as conclusive. Hume shall therefore be allowed to speak for himself; and he shall speak in the language of that very *Treatise on Human Nature* to which Reid alludes:—

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* *Inquiry*, introd. i. § 5.

'Should it be here asked me whether I sincerely assent to this argument which I seem to take such pains to inculcate, and whether I be really one of those sceptics who hold that all is uncertain, and that our judgment is not in *any* thing possessed of *any* measures of truth and falsehood, I should reply that this question is entirely superfluous, and that neither I nor any other person was ever sincerely and constantly of that opinion. Nature, by an absolute and uncontrollable necessity, has determined us to judge as well as to breathe and feel; nor can we any more forbear viewing certain objects in a stronger and fuller light upon account of their customary connection with a present impression than we can hinder ourselves from thinking as long as we are awake, or seeing the surrounding bodies when we turn our eyes towards them in broad sunshine. Whoever has taken the pains to refute the cavils of this *total* scepticism has really disputed without an antagonist, and endeavoured by arguments to establish a faculty which *Nature has antecedently implanted in the mind, and rendered unavoidable.*

'My intention then in displaying so carefully the arguments of that fantastic sect is only to make the Reader sensible of the truth of my hypothesis that all our reasonings concerning causes and effects are derived from nothing but custom; and that belief is more properly an act of the sensitive than of the cogitative part of our natures. . . . If belief were a simple act of the thought without any peculiar manner of conception, or the addition of force and vivacity, it must infallibly destroy itself, and in every case terminate in a total suspense of judgment. But as experience will sufficiently convince anyone that, although he finds no error in my arguments, yet he still continues to believe and think and reason as usual, he may safely conclude that his reasoning and belief is some sensation or peculiar manner of conception, which 't is impossible for mere ideas and reflections to destroy.'*

It is an illustration of the want of candour displayed by Hume's opponents that they never quoted this very significant and explicit passage; indeed I never remember to have seen the passage quoted by anyone. Let us ask, what does the foregoing declaration amount to, if not to the boasted 'common-sense view' that our belief in the existence of matter is instinctive, fundamental? Does not Dr. Brown's admission that the sceptical argument is unanswerable as a mere play of reasoning concede all that Hume requires? Does not Dr. Brown's conclusion that we are thrown upon 'irresistible belief' as our only refuge against scepticism equally accord with Hume's explicit declaration that we *do* believe, and cannot help believing, though we can give no reason for the belief?

'Thus the sceptic,' Hume adds a little further on, 'still continues to reason and believe, even though he asserts that he cannot defend his reason by reason; and by the same rule he must assent to the principle concerning the existence of body, though he cannot pretend by any arguments of philosophy to maintain its veracity. *Nature has not left this to his choice*, and has doubtless esteemed it an affair of too great importance to be trusted to our uncertain reasonings and speculations. We may well ask, *what causes induce us to believe in the existence of body*? but 't is in vain to ask *whether there be body or not*? that is a point which we must take for granted in all our reasonings.'

After this, let no more be said about Hume's practical inconsequences. Locke before him had clearly enough seen and signalised the impotence of the attempt to penetrate beyond phenomena, and had, with his usual calm wisdom, counselled men to 'sit down in quiet ignorance.' He knew the task was hopeless; he knew also that it was trivial. God has given us the means of knowing all that directly concerns us with a certainty which suffices for our wants.

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* *Human Nature*, part iv. § i. p. 250.

With that, reasonable men will be content. If they seek more, they seek the impossible; if they push their speculations deeper, they end in scepticism. It was the philosophical *mission* of Hume (to adopt a phrase in vogue) to show how inevitably all such speculations, if consistent, ended in scepticism.

'Men,' he says, 'are carried by a natural instinct or prepossession to repose faith in their senses. When they follow this blind and powerful instinct of nature, they always suppose the *very images* presented to the senses *to be* the external objects, and *never entertain any suspicion that the one are nothing but representatives of the other.* But this universal and primary opinion of all men is soon destroyed by the slightest philosophy, which teaches us that nothing can ever be present to the mind but *an image or perception.* So far then we are necessitated by *reasoning to contradict the primary instincts of Nature,* and to embrace a new system with regard to the evidence of our senses. But here philosophy finds herself extremely embarrassed, when she would obviate the cavils and objections of the sceptics. She can no longer plead the infallible and irresistible instinct of nature, for that led us to quite a different system, which is acknowledged fallible, and even erroneous; and to justify this pretended philosophical system by a chain of clear and convincing argument, or even any appearance of argument, exceeds the power of all human capacity.

'Do you follow the instinct and propensities of nature in assenting to the veracity of the senses? But these lead you to believe that the very *perception or sensible image is the external object*—(Idealism).

'Do you disclaim this principle in order to embrace a more rational opinion, that the perceptions are only *representations* of something external? You here depart from your natural propensities and more obvious sentiments; and yet are not able to satisfy your reason, which can never find any convincing argument from experience to prove that the perceptions are connected with external objects'—(Scepticism).

This is the dilemma to which Philosophy is reduced: out of it there is no escape; and Hume deserves the gratitude of mankind for having brought Philosophy to this pass. Mankind, however, has paid him with reprobation. As the whole course of our History has been occupied in tracing the inevitable result of all Philosophy to be precisely this, our readers will be prepared for a different appreciation of Hume. Let us therefore endeavour to define the nature of this scepticism, which has caused such great alarm. Scepticism, meaning doubt, and being frequently used to signify religious doubt, has alarming associations attached to it. To call a man a sceptic is to call him a heretic. And, unfortunately for Hume's philosophical reputation, he was a sceptic in Theology as well as in Philosophy, and mankind have consequently identified the former with the latter.

Now, philosophical scepticism means a doubt as to the validity of Philosophy;—in other words, a doubt only on one particular subject. If I accept the consequences to which the doctrine of Hume leads me, am I forced to suspend my judgment, and to pronounce *all* subjects uncertain? or am I only to pronounce *some* subjects uncertain? The latter is clearly the only opinion I can entertain. *What* then are the questions on which I must be content to remain in darkness? Locke, no less than Hume, has told us: All which relate to Ontology—which pretend to discuss the nature and essences of things.

This scepticism, the reader must acknowledge, has nothing very alarming in it,—except to Philosophy. It is maintained by the vast majority of thinking men—some from conviction, others from a vague sense of the futility of ontological speculation. Only the bad passions roused in discussion could pretend to confound it with a religious heresy. Scepticism indicates the boundaries of inquiry. It leads us from impossible attempts to fly, and instructs us how securely we may run. It destroys Metaphysical Philosophy only to direct all our energies towards Positive Philosophy. In the words of Goethe, 'Let us not attempt to demonstrate what cannot be demonstrated! Otherwise we shall make our miserable deficiencies more glaring to posterity by our so-called works of knowledge.'

Hume was a sceptic; and, consequently, early in life ceased devoting his marvellous acuteness to any of the questions agitated in the schools. His *Essays* and his *History* were excellent products of this change of direction; and although he did devote a portion of the *Essays* to Philosophy yet it was but a portion, and one which gave a more popular and elegant exposition of the principles of his first work.

## § III. HUME'S PSYCHOLOGY.

It was clearly seen by Hume that the failure of Philosophy to compass its ambitious aim was owing to a false conception of the scope of human intellect. 'The only method,' he says, 'of freeing learning at once from these abstruse questions is to inquire seriously into the nature of human understanding, and show from an exact analysis of its powers and capacity that it is by no means fitted for such remote and abstruse subject.'* The sceptical issue from his analysis could only be escaped by proving some flaw in the analysis.

All our mental furniture being reduced to Impressions (even Ideas being simply the feeble copies of the livelier Impressions), the philosopher may 'banish all that jargon which has so long taken possession of metaphysical reasonings, and drawn such disgrace upon them. All ideas, especially abstract ones, are naturally faint and obscure. The mind has a slender hold of them: they are apt to be confounded with other resembling ideas; and when we have often employed any term, though without a distinct meaning, we are apt to imagine that it has a determinate idea annexed to it. On the contrary, all impressions, that is, all sensations, either outward or inward, are strong and sensible; the limits between them are more exactly determined; nor is it easy to fall into any error or mistake regarding them. When we entertain, therefore, any suspicion that a philosophical term is employed without any meaning or idea (as is but too frequent), we need but inquire *from what impression is that idea derived?* And if it be impossible to assign any, this will serve to confirm our suspicion.'*

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* *Essays*, sect. i.

In other words, a conception which we are unable to reduce to sensible elements can have no objective reality. If it is a *relation*, we must exhibit the related *terms*. If it is a symbol, we must exhibit the facts which are converted into signs. Hume used the word Impressions in this wide sense: 'all our more lively perceptions, when we hear, or see, or feel, or love, or hate, or desire, or will;' a somewhat unfortunate ambiguity, and one that was not cleared up by his distinction of Ideas as the same Impressions in a less vivid form. Nevertheless, although there was deficient precision in his views, he was, I think, on the track of true psychological discovery. That he had not clearly thought out the distinctions between faculties and sensations, or the real relation between sensations and ideas, is obvious enough. Thus in treating of the question of Innate Ideas, he says: 'If innate be equivalent to natural then all the perceptions and ideas of the mind must be allowed to be innate or natural. . . . If by innate be meant contemporary to our birth the dispute seems to be frivolous; nor is it worth while to inquire at what time thinking begins, whether before, at, or after, our birth.' [What a complete misapprehension of the reach of the dispute!] 'Again, the word *idea* seems to be commonly taken in a very loose sense, even by Locke himself, as standing for any of our perceptions, our sensations, and passions, as well as thoughts. Now, in this sense, I should desire to know what can be meant by asserting that self-love, or resentment of injuries, or the passion between the sexes, is not innate? But admitting these terms, *impressions* and *ideas*, in the sense above explained, and understanding by *innate* what is original or copied from no precedent perception, then may we assert that all our impressions are innate, and our ideas are not innate.' In so acute a thinker, such confusion is remarkable.

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* *Essays*, sect. ii.

Hume perceived the difficulty of recognising Mind as an Entity; but his imperfect acquaintance with Science prevented him from recognising the other alternative, that Mind might be a Function. In denying a mental *substratum* analogous to the *substratum* imagined to underlie the qualities of matter, he was left in a state of absolute scepticism. He gave a logical unity to consciousness, and supposed that this logical unity was all that men meant when they spoke of real unity. A metaphysician might reasonably object that the reality of Mind was implied in the fact of impressions: an implied something which is impressed, a something which feels and ideates: that something is the mental substratum. A biologist would make a somewhat similar reply. Hume says, 'An impression first strikes upon the senses . . . of this impression there is a copy taken by the mind, which remains after the impression ceases; and this we call an idea.' This is preposterous and vague: it introduces an hypothetical Mind (whose existence he denies) acting like a copying machine; and when we come to learn what this Mind is, we find it is 'nothing but a *heap or collection* of different perceptions united together by certain relations, and supposed, though falsely, to be endowed with perfect simplicity and identity.'* What should we say to a philosopher who asserted that a locomotive was *nothing but a succession of spaces passed through*, and denied that there was any motor, any real object, passing through the described spaces?

If Mind is a series of impressions, or, as modern psychologists say, a succession of states of Consciousness, what is their connecting link? Between any two states there must be an interval, however brief, in which no object occupies Consciousness. During this interval does Consciousness vanish, to reappear with the next state? Is there no continuity? The metaphysician answers: Yes, the mind itself continues and connects in one synthesis all its manifestations. In the intervals between two acts, it is in the static condition; in the several manifestations, it is in the dynamic condition.

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* *Treatise on Human Nature.*

The biologist answers: Consciousness, being a vital process, not an Entity, has its synthesis in the continuity of the vital conditions. Just as a muscle continues to exist, as muscle, in the interval between two contractions, so does the nervous mechanism, of which Consciousness is a function, continue to exist in the interval between two acts of Consciousness; but neither Contractility nor Sensibility exist independently of their tissues; nor can they be manifested when the vital proparties are exhausted.

The metaphysician would assuredly reject aid of *this* kind, even against Hume. He would assert that the reality of the mental entity is testified by Consciousness, and is proved by the fact that we say My body—an assurance that my body is not *me*.

Here the biologist would remark that the testimony of Consciousness needs sifting by analysis. If we say, My body, not less undeniably do we say, My mind. Indeed the notion of Self is a reflective notion, the genesis of which no psychologist has yet clearly traced.

Hume certainly had no clue to it. His assertion that the mind was nothing but a series of impressions, was less the result of psychological investigation than of logical deduction. The arguments by which Berkeley had destroyed the notion of a substantive Matter were turned with equal force against the notion of a substantive Mind. But, nevertheless, this sceptical suggestion, once thrown out, could not fail to act like a ferment. It was a step towards the biological solution; a step which could not be carried far until Biology had from its side also approached the subject.

## § IV. HUME'S THEORY OF CAUSATION.

It is customary to speak of 'Hume's theory of Causation,' and to bestow no inconsiderable acrimony upon him on its account. But, in the first place, the theory is not peculiarly his; in the second place, his application of it to the question of Miracles, which has excited so much vehement controversy, reduces itself to 'this very plain and harmless proposition, that whatever is contradictory to a complete induction is incredible. That such a maxim as this should be either accounted a dangerous heresy or mistaken for a recondite truth speaks ill for the state of philosophical speculation on such subjects.'*

The theory may be thus briefly stated. All our *experience* of causation is simply that of a constant succession. An antecedent followed by a sequent—one event followed by another: this is all that we experience. We attribute indeed to the antecedent a *power* of producing or causing the sequent; but we can have no experience of such a power. If we believe that the fire which has burned us will burn us again, we believe this from habit or custom; not from having perceived any *power* in the fire. We believe the future will resemble the past, because custom has taught us to rely upon such a resemblance. 'When we look about us towards external objects, and consider the operation of causes, we are never able in a single instance to discover any power or necessary connection—any quality which binds the effect to the cause, and renders the one an infallible consequence to the other. We only find that the one does actually in fact follow the other. The impulse of one billiard-ball is attended with motion in the second. This is the whole that appears to the outward senses. The mind feels no sentiment or inward impression from this succession of objects; consequently there is not, in any single instance of cause and effect, anything which can suggest the idea of power or necessary connection.'† This is the whole of his theory. His explanation of our belief in power, or necessary connection, is that it is a matter of habit.

I know not whether Hume ever read Glanvill's *Scepsis Scientifica*. The title was one to attract him. At any rate, Glanvill had clearly enough stated Hume's theory, e.g. 'All knowledge of causes is deductive; for we know of none by

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[*] MILL: *System of Logic*, vol. ii. p. 183.

[†] *Essays*, sect. vii.

simple intuition, but through the mediation of their effects. So that we cannot conclude anything to be the cause of another *but from its continually accompanying it*; for the *causality* itself is *insensible*.' Malebranche had also anticipated him; and so had Hobbes. The language, indeed, of the latter is so similar to the language employed by Hume that I agree with Dugald Stewart in suspecting Hume to have borrowed it from Hobbes. 'What we call experience,' says Hobbes, 'is nothing else but remembrance of what antecedents have been followed by what consequents. . . . No man can have in his mind a conception of the future, for the future is not yet; but of our conceptions of the past we make a future, or rather call past future relatively. Thus, after a man has been accustomed to see like antecedents followed by like consequents, whensoever he seeth the like come to pass to anything he had seen before, he looks there shall follow it the same that followed then.'

This theory of Causation has been hotly debated, partly because of the 'consequences' which some have seen, with alarm, to be deducible from it (for opinions are judged of more by their supposed consequences than by their reasoned truth); partly also because Hume has not stated it with the clearness which prevents misunderstanding. It is only to the latter point we can here attend.

When Hume asserts that experience gives no intimation of any *connection* between two events, but only of their invariable *conjunction*—when he says that the mind cannot perceive a causal nexus, but only an invariableness of antecedence and sequence, he is contradicted, or seems to be, by the consciousness of his readers. They declare that, over and above the fact of sequence, there is always an intimation of *power* given in every causation, and this it is which distinguishes causal from casual sequence,—connection from mere conjunction. The fire burns paper because there is some power in the fire to effect this change. Mere antecedence, even if invariable, cannot be sufficient, or else day would be the cause of night, the flash of lightning would be the cause of the thunder-peal. Swallows fly close to the earth some little while before the rain falls; but no one supposes the flight of the swallows causes the fall of the rain. In every case of causation there must be an element of power—a capacity of producing the observed change—a nexus of some kind, over and above the mere juxtaposition of bodies. If diamond will cut glass, it has a power to do so; the sharpest knife is without this power.

So reason Hume's antagonists. Nor do I think they are finally answered by resolving the idea of power into mere invariableness of antecedent and sequent; for they may reply that the 'invariableness' itself is deduced from the idea of power: we believe the fire will invariably burn the paper because it has the power to do so, because there is a real nexus between fire and the combustion of paper; only on such a belief can our expectation of the future resembling the past be securely founded.

The ordinary belief of mankind in the existence of something more than mere antecedence and consequence is therefore a fact. This fact Hume and others admit. Because they cannot perceive the power, they declare that we have no right to believe in it. Hume insists upon the impossibility of our perceiving power—of our perceiving any necessary connection between two events. But, say those who oppose this theory, 'Although we cannot *perceive* the power, we are forced to *believe* in it; and this belief is not a matter of custom, but is given in the very facts of consciousness. We perceive that *some power* is at work producing effects; the *precise nature* of this power, indeed, we cannot perceive, because we never can know things *per se*. When a spark ignites gunpowder, we perceive a power in the spark to ignite gunpowder: *what* that power is, we know not: we only know its effects. But our ignorance is equally great of the gunpowder: *what* it is, we know not; we only know its appearances to us. It might as well be said that we believe in the gunpowder from custom (since we really know nothing of it *per se*) as that we believe in the power of the spark to ignite gunpowder from custom, since we really know nothing of powder *per se*. We know nothing *per se*.'

I have marshalled the arguments, with as much force as I could muster, into so small a field, in order to bring into appreciable distinctness the source of the opposition to Hume's theory on the part of many who have no doctrinal distrust towards it. Before attempting an elucidation of the difficulty, it will be needful to consider the grounds of our belief in causation. As it is a fact that all men believe in some power involved in every causal act, we have to ask, Is that belief well founded?

Two schools at once present themselves. The one (that of Hume) declares that the belief has no good grounds; it is a matter of custom. If I believe the sun will rise to-morrow, it is because it has always risen. If I believe that fire will burn in future, it is because it has always burned. From habit I expect the future will resemble the past: I have no proof of it.

The other school declares that this belief in causation 'is an intuitive conviction that the future will resemble the past.' This is the language of Reid and Stewart. Dr. Whewell would have us admit the belief as a fundamental idea—a necessary truth independent of and superior to all experience.

Both explanations are questionable. Custom or habit can essentially have nothing whatever to do with it, because our belief is as strong from a single instance as from a thousand. 'When many uniform instances appear,' says Hume, 'and the same object is always followed by the same event, *we then begin to entertain* the notion of cause and connection. We then feel a new sentiment, to wit, *a customary connection* in the thought between one object and its usual attendant; and this sentiment is the original of that idea which we seek for.' This is manifestly wrong. A single instance of one billiard-ball moving another suffices to originate the 'sentiment,' without further repetition. Nor is there more truth in the assertion that the belief depends on 'conviction of the future resembling the past;' this explanation assumes that the general idea precedes the particular idea. When we believe that similar effects will follow whenever the same causes are in operation—when we believe that fire will burn, or that the sun will rise to-morrow—we are simply *believing in our experience*, and nothing more. We cannot help believing in our experience: that is irresistible: but in this belief, the idea of either past or future does not enter. I do not believe that fire will burn because I believe that the future will resemble the past; but simply because my experience of fire is that it burns—that it has the power to burn. Take a simple illustration, trivial, if you will, but illustrative:—A child is presented with a bit of sugar: the sugar is white, of a certain shape, and is solid; his experience of the sugar is confined to these properties: he puts it in his mouth; it is sweet, pleasant: his experience is extended; the sugar he now believes (knows) to be sweet and pleasant, as well as white and solid.* Thus far experience is not transcended. Some days later, another piece of sugar is given him. Is it now necessary for him to have any 'intuitive conviction that the future will resemble the past'—any fundamental idea independent of experience—to make him believe that if he puts the sugar in his mouth it will taste sweet? Not in the least: he believes it is sweet, because he knows it is sweet—because his experience of sugar is that it *is* sweet. By no effort could he divest himself of the idea of its sweetness, because sweetness forms an integral part of his idea of the sugar. So we may say of the sun's rising: it is part and parcel of our idea of the sun. So of one billiard-ball putting a second in motion: our experience of billiard-balls is that they put each other in motion.

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* It will perhaps seem strange that we should select sweetness as an example of causation. We selected it for its simplicity. No one will deny that the taste of sweetness is as much an effect caused by the sugar as pain is an effect caused by fire. But people are apt to overlook that causation is the result of the properties of one body acting upon the properties of another. They would call sweetness a quality in sugar: but the motion of a billiard-ball they say is *caused* by another ball.

Custom has primarily nothing to do with the belief. If we had only one experience of fire—if we saw it only once applied to a combustible substance—we should believe that it would burn, because our idea of fire would be the idea of a thing which burns. Custom has however, secondarily, some influence in correcting the tendency to attribute properties to things. Thus, a child sees a friend who gives him an apple. The next time the friend comes he is asked for an apple, because the idea of this friend is of a man who, amongst other properties, has that of giving apples. No apple is given, and this idea is destroyed. Similarly, when all our experience of things is confirmatory of our *first* experience, we may say that habit or custom induces us to attribute certain effects to certain causes. When our subsequent experience contradicts our first experience, we cease to attribute those effects to those causes which we first experienced; this is only saying that our subsequent experience has destroyed or altered the idea we formed at first.

Remark how much confusion is spread over this subject by the inconsiderate introduction of the word belief. It is incorrect to say that a man *believes* that fire will burn him if he puts his finger in it; he *knows* it. He will believe that it has burned some one else—he will believe in a *proposition* you make about fire, belief being the assent to propositions: but to talk of his believing that sugar will be sweet, when he knows it *is* sweet, when he cannot think of it otherwise than as sweet; or that fire will burn when he knows it burns, is as improper as to say that he *believes* himself cold when he feels cold.

Only from this improper use of the word belief could the theory of fundamental ideas, or of 'an intuitive conviction that the future will resemble the past,' have stood its ground for a moment. If the proposition 'Fire will burn paper' were put to any one, he would unquestionably believe it, because he has no other knowledge of the fire than of its burning properties. The proposition is as evident to him as that two and two make four. Although, therefore, he may be said to believe in the proposition, 'Fire will burn paper,' he cannot properly be said to act upon belief when he attempts to light paper: he acts upon his knowledge. Metaphysicians argue as if the belief in the immediate result of an action were a belief in some *implied proposition* about the course of nature. It is really a reliance upon experience; nothing more.

We must distinguish between belief in existence, and belief in propositions. It is inaccurate to say that a man *believes* in his own existence, as if that were a belief in a proposition. But though a man cannot believe in his own existence, simply because it is impossible for him to conceive himself as non-existent, he may believe that he will exist eternally, because that is a proposition, the converse of which is conceivable and maintainable.

The primordial act of all thinking whatever, is, as I have explained in the Prolegomena to this History, the making *present* to the mind of what is *absent* from the sense; and this, which connects all intellectual phenomena into one class, renders the accurate demarcation of them sometimes impossible, so insensibly does the one pass into the other. Thus when I say, 'I see it has rained,' because the wet streets make me infer that the wetness was caused by rain, my assertion is grounded on a mental re-presentation of the absent occurrence, precisely analogous to that which takes place when I *infer* the sweetness of the sugar before me, or *perceive* that the flower in Julia's hair is a rose, or *believe* that the paper she holds close to the candle will infallibly ignite if paper and flame come in contact. In each case the inference, perception, or belief, is the re-presentation of facts formerly present in my experience of rain, sugar, roses, and candles. Whenever I forget any of the attendant facts, i.e. fail to make them present, I can only form an incomplete conception of the thing about which I reason, or infer. Bad logic is imperfect re-presentation. In proportion to the complexity of a proposition will be the liability to error, because of the liability to suffer some of the attendant facts to drop out of sight. Thus the proposition 'Fire will burn paper' is so simple, and accordant with daily experience, that assent to it is instantaneous; but the proposition 'Human life may extend over two centuries' is one implying so many facts which cannot be made present to the mind, because not lying within familiar experience, that instead of assent it produces denial, or at least doubt, which is suspension of belief, which again is the confessed inability to make all the facts present to the mind. That 'two and two make four' is the immediate and irresistible conclusion of every educated man; nevertheless, this very man would pause before assenting to the proposition 'Eight times three hundred and ninety-six, make three thousand one hundred and sixty-eight,' because he would have to make present to his mind the successive steps of the calculation, and this would demand an effort, great in proportion to his want of familiarity with calculations.

In spite of this identity of belief and perception, it is necessary for the perspicuity of discussion to discriminate the two, and I propose therefore to restrict the term belief to the assent to propositions, and demarcate it from those direct inferences which are made in the presence of objects and have reference to them. I would say, we believe in the proposition 'Fire burns,' but know that the paper about to be thrust into flame will ignite. Such a discrimination of terms will be found useful in discussing causation. We shall thus see in what respect assent to a proposition, complex in its elements, differs from the 'practical belief' of mankind in particular facts—we shall separate the belief of the philosopher in the proposition 'Every effect must have a cause,' from the belief of the child that the fire, which yesterday burned paper, will burn it to-day. Both beliefs are grounded on and limited by experience; but the experience of the philosopher is distinguished from that of the child by its greater accumulation of analogous facts. The 'necessity' and 'universality' which, according to Kant, distinguish the philosophical concept, and raise it above experience, will be considered hereafter. For the present it is enough if we have reduced belief in causation (or in power) to experience of a direct kind, *not* separable from any other intellectual act, but allied to all other acts in being the mental re-presentation of phenomena formerly present in experience. And this will help us, perhaps, to reconcile the combatants who quarrel over the idea of 'power' in causation.

Thus while it will be admitted by the one party that between two events, named respectively cause and effect, no *nexus* is perceived by us, over and above the mere fact of antecedence and sequence; and that therefore Hume is right in saying—'we only perceive this antecedence, and do not perceive the causal link;' on the other hand it must be maintained, that between those two events there is a specific *relation*, a something which makes the one succeed the other, causing this particular effect rather than another; and this subtle link it is which is the nexus contended for; this relation it is which distinguishes a causal act from one of accidental sequence. There must be a peculiar relation existing between oxygen and metals, otherwise metals never could be oxidised. The oxidation of iron is an effect like the ignition of paper; but it is an effect producible only through a specific relation or cause. If cause is a Relation, the reason of our inability to perceive it as an isolated existence, is the inability to isolate a relation from its related terms. It is not an object that can be presented to consciousness. Whatever may be the noumenal existence implied by the Relation, our phenomenal knowledge must ever be limited to the mere recognition of related terms. To say that we cannot perceive this Relation, and that antecedence and sequence are all that we can perceive, is only saying that we cannot penetrate beyond phenomena and their successions; but this is no more a ground for the denial of a causal nexus, than it is for the denial of an external world.

All things necessarily stand related to all other things: sometimes these relations are obtruded on our notice, because they pass from relations of coexistence into relations of succession, and we name them causes and effects; at other times they remain in the background of unremarked coexistence, and our unsolicited attention overlooks them; we do not then name them cause and effect. The carbonate of lime, which I see before me as marble, suggests to me, in its inaction, no conception of power, or causation, because my attention is not solicited by any *successive* relations; yet, if I had witnessed the action of the carbonic acid on the lime, which originally *caused* the two substances to unite and form marble, the passage from one state to another would have suggested the idea of some power at work. It is clear that there must be relations existing between the carbonic acid and the lime, which *cause* the two to remain united, as we see them in marble. We do not see these relations—we do not therefore see the cause—but we know the cause must be in operation all the while, although, in consequence of no changes taking place, we are not solicited to observe the operation. Hence it is that only successive phenomena are named causal; and hence is it that Hume was right in saying that, in a last analysis, invariableness of antecedence and sequence is all that experience tells us of causation; although he did not, I think, state this position clearly, nor discern its real basis.

This conception of Causation, as the direct Relation between any two phenomena, whether coexistent or successive, accords with the conception that what is called the effect is itself but the union of two causes—the oxygen and the metal co-operate to form an oxide; the group of facts which we designate as the antecedent, combines with the group of facts called the sequent; as when we say that 'Henry I. died of eating lampreys;' by which we mean, that in a certain condition of his organism the introduction of lampreys was the antecedent to a whole series of sequences terminating in death; although we are perfectly aware that the lamprey was not the 'cause,' but only one integer in the sum of causes. The difficulty in fixing upon a true cause is this very complexity of relations: only when we can be said to know all the elements of a group, can we isolate one to estimate its influence.

I have endeavoured to reconcile the two contending parties on this perplexing question, and for all further discussion must refer to Mr. Mill's chapter in his *System of Logic*, where however there is a passage which seems to me quite contrary to the doctrine he upholds. I allude to his strictures on the dogma *cessante causâ cessat et effectus*. '*A coup de soleil* gives a man a brain-fever: will the fever go off as soon as he is moved out of the sunshine? A sword is run through his body: must the sword remain in his body in order that he may continue dead?'* Surely this argument is tenable only by those who confound a cause with the whole group of conditions which precede, and the effect with the whole group of conditions which succeed; and is not tenable by those who hold that cause and effect are simply antecedent and sequent. The solar rays striking on the man's head produce a disturbance in the circulation, which in its turn becomes the antecedent to a congestion of the blood-vessels in the brain, which becomes a brain-fever; instead of one succession of cause and effect, we have here a series of such successions; and if we could analyse the various stages of the sunstroke, we should find that each effect did cease on the cessation of the cause; indeed, if an effect be nothing but the sequent of an antecedent—and not the product of some creative power in the cause—it must depend for its existence on the presence of the antecedent.

Hume's Theory of Causation set Kant speculating on the constituent elements of cognition; but before we follow out the development of Philosophy in that direction, it will be necessary to trace the further development of Locke's influence in other directions.

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* Vol. i. p. 413, first ed.

# SIXTH EPOCH.

*Attempts to discover the mechanism of psychological action: the Sensational School.*

## CHAPTER I.

### *CONDILLAC.*

### § I. LIFE OF CONDILLAC.

ETIENNE BONNOT, who became Abbé de Condillac, was born at Grenoble, in 1715. His life was passed mainly in study, and was not varied by any of those incidents which give interest and romance to biography. He published his first work, *Essai sur l'Origine des Connoissances Humaines*, in 1746; three years after, his *Traité des Systèmes*. His other works followed rapidly: and established for him such a reputation that he was appointed tutor to the Prince of Parma, for whose instruction he wrote the *Cours d'Études*. In 1768 the capricious doors of the Académie Française were opened to him; but once elected a member, he never after attended any of its sittings. He published his *Logique* in 1780, a few months before his death; and he left behind him his *Langue des Calculs*, published in 1798.

There is one biographical detail of interest, though I do not remember to have seen it alluded to by anyone except Mr. Maurice,* and it receives fresh interest from the point of resemblance it suggests in the lives of two other philosophers.

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* MAURICE: *Modern Philosophy*.

The influence of a woman's mind in determining the later speculations of Auguste Comte, and those of another eminent thinker, still living, is avowed by them; a similar influence is avowed with equal candour and almost equal enthusiasm by Condillac in the case of Madlle. Ferrand, to whom 'he owed the illumination which dispelled his prejudices.' He regrets her loss, and the imperfect state of his work thus deprived of her revision. The merit, if there be merit, he ascribes to her. 'Les vues les plus fines qu'il renferme sont dues à la justesse de son esprit et à la vivacité de son imagination. Elle sentit la nécessité de considérer séparément nos sens, de distinguer avec précision les idées que nous devons à chacun d'eux, et d'observer avec quels progrès ils s'instruisent, et comment ils se prêtent des secours mutuels.' *

## § II. CONDILLAC'S SYSTEM.

We have seen how Idealism and Scepticism grew out of the doctrines respecting the origin of knowledge. We have now to see the growth of the Sensational School.

The success which Locke met with in France is well known. For a whole century the countrymen of Descartes extolled the English philosopher, little suspecting how that philosopher would have disclaimed their homage, could he have witnessed it. Condillac is the acknowledged representative of Locke in France. When his first work, entitled *Essai sur l'Origine des Connoissances Humaines*, appeared he had no notion of simplifying Locke by reducing all Knowledge to Sensation. He was a modest disciple, and laid down as the fundamental principle that 'sensations and the operations of the mind are the materials of all our knowledge—materials which reflection sets in action by seeking their combinations and relations.' (Chap. i. § 5.)

In 1754 appeared his celebrated work, the *Traité des Sensations*. In it he quits Locke for Gassendi and Hobbes. 'The chief object of this work,' he says, 'is to show how all our knowledge *and all our faculties* are derived from the senses, or, to speak more accurately, from sensations.' The inclusion of 'our faculties,' as well as our ideas, in this sensuous origin is however due entirely to Condillac. Hobbes never thought of such a 'simplification.' The divergence from Locke is obvious: instead of the two sources of ideas, recognised in the *Essay on Human Understanding*, it assumes one source only—Sensation; instead of mind, with certain elementary faculties, it assumes one elementary faculty—that of Sensibility—out of which all the faculties are evolved by the action of external objects on the senses. Nor was this a mere slip of Condillac's pen: the principle is radical; it constitutes the peculiarity of his system. Speaking of various philosophers, and quoting, with praise, the maxim attributed to Aristotle, that 'Nothing is in the intellect which was not previously in the senses,' he adds, 'Immediately after Aristotle comes Locke; for the other philosophers who have written on this subject are not worthy of mention. The Englishman has certainly thrown great light on the subject, but he has left some obscurity. . . . All the faculties of the soul appeared to him to be innate qualities, and he never suspected they might be derived from sensation itself.

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* *Traité des Sensations*, pp. 48–56.

'Locke is the first,' he says, 'who remarked that the inquietude caused by the privation of an object is the principle of our actions. But he makes the inquietude born of desire, and it is precisely the contrary. . . . It remained therefore to show that this inquietude is the first principle given to us by the habits of touching, seeing, hearing, tasting, comparing, judging, reflecting, desiring, loving, hating, fearing, hoping, willing; that, in a word, it is from this arise all the habits of the soul and body.

'Locke distinguishes two sources of ideas, sense and reflection. It would be more exact to recognise but one; first, because reflection is in its principle nothing but sensation itself; secondly, because it is less a source of ideas than a canal through which they flow from sense.

'This inexactitude, slight as it may seem, has thrown much obscurity over his system. He contents himself with recognising that the soul perceives, thinks, doubts, believes, reasons, wills, reflects; that we are convinced of the existence of these operations, because we find them in ourselves, and they contribute to the progress of our knowledge; but he did not perceive the necessity of discovering their origin, and the principle of their generation,—he did not suspect that they might only be acquired habits; he seems to have regarded them as innate, and he says only that they may be perfected by exercise.' *

This is far enough from Locke, who would have been amazed to hear that 'judgment, reflection, the passions—in a word, all the faculties of the mind—are nothing but *sensation which transforms itself differently* (qui se transforme différemment).'

Those who are curious to see how sensation transforms itself into these faculties may read Condillac's account. 'If a multitude of sensations operate at the same time with the same degree of vivacity, or nearly so, man is then only an animal that feels; experience suffices to convince us that then the multitude of impressions takes away all activity from the mind. But let only one sensation subsist, or without entirely dismissing the others, let us only diminish their force; the mind is at once occupied more particularly with the sensation which preserves its vivacity, *and that sensation becomes attention*, without its being necessary for us to suppose *anything else in the mind.* If a new sensation acquire greater vivacity than the former, it will become in its turn attention. But the greater the force which the former had, the deeper the impression made on us, and the longer it is preserved. Experience proves this. Our capacity of sensation is therefore divided into the sensation we have had, and the sensation which we now have; we perceive them both at once, but we perceive them differently: the one seems as past, the other as present. The name of *sensation* designates the impression actually made upon our senses; and it takes that of *memory* when it presents itself to us as a sensation which has formerly been felt. Memory is only the transformed sensation. When there is double attention there is comparison; for to be attentive to two ideas, and to compare them, is the same thing. But we cannot compare them without perceiving some difference or some resemblance between them: to perceive such relations is *to judge*. The acts of comparing and judging are therefore only attention; it is thus that sensation becomes successively attention, comparison, judgment.'

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* *Extrait raisonné du Traité des Sensations: Œuvres de Condillac* (1803), iv. 13. Compare: *Essai sur l'Origine des Connaissances*, p. 26; and *Logique*, pp. 25, 49, 83.

If ever the epigram of Leibnitz, *nisi ipse intellectus*, could be used as an argument, it would be against such a system as this. Although Condillac's superficial plausibility captivated Europe for a time, there was a speedy reaction, springing from men's consciousness that, however Condillac might name the phenomena, a real distinction existed in fact. He was quite consistent. He considered that judging, comparing, numbering, imagining, wondering, having abstract ideas, having ideas of time and number, knowing general and particular truths, are only different ways of attending; all our passions are different ways of desiring; and as attention and desire are words of feeling, it is clear that sensation 'enveloppe toutes les facultés de l'âme.'

Now the first objection which must be raised against this system, though it is one which I do not remember to have seen raised, is that it presupposes the existence of the very Mind which it proceeds to deny. Condillac is called a materialist, because careless readers or uncandid antagonists have overlooked his plain and repeated statements of his belief that there is a soul in the body, and that the sensations are only the occasional causes of mental operations.*

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* 'Je dis la *cause occasionnelle*, parceque les sensations sont les modifications propres de l'âme, et que les organes n'en peuvent être que l'occasion.' *Traité des Sensations*, p. 51.

Hence he recognises the power of the mind to acquire ideas even independently of sense; which will be the case in a future life. Nor is this hypothesis of *l'âme*, as an existing entity, a mere make-believe phrase. The activity of the soul, in sensation itself, is always presupposed by him. Thus, in his famous statue, each sensation calls forth judgment, comparison, desire; and yet Condillac pretends that these faculties thus called forth are only the sensation itself transformed; but, however he may name the process, the process itself in no respect differs from that described by Locke, who also taught that the mind exercised its faculties on materials furnished by sense.

Thus, while he pretends to evolve all knowledge and all the faculties out of sensation and the transformations of sensation (which is to be his advance on Locke), we cannot but observe that in his evolution the presence is tacitly admitted of those very faculties which are said to be evolved. In fact, he confounds the faculties with the operations of the faculties. Nor was there any alternative for him. In the absence of the faculties which elaborate sensations into perceptions, judgments, reasonings, the senses would never have raised his statue above the condition of idiocy, A man reduced to mere sensations would be like the pigeon whose cerebrum is removed, sensitive indeed, but incapable of memory, judgment, thought. Condillac was therefore forced to presuppose the existence of the mental faculties—the transforming power. To say that sensations themselves were the faculties, was equivalent to saying that exercise is the faculty of running. The child cannot run until he has learnt to use his limbs, but the exercise, in which this is learned, does not give him the limbs. Condillac was perfectly right in saying that we are not born with our mental faculties ready developed, any more than we are born capable of running at once; and when he divined this truth he was on the threshold of an important investigation, namely, How are the faculties developed? but he was unable to pursue the investigation, not having a right Method. Instead of biological, he pursued verbal analysis. A verbal analysis of the phenomena was approximately made, and this was accepted as a substitute for the analysis of organ and function.

The second objection is, that if the mind is a *tabula rasa* as to knowledge, and is not even pre-existent as faculty (according to the metaphysicians) or as organism (according to the biologists), if, in a word, sensations and combinations of sensations create both knowledge and the knowing faculties, how can we explain the phenomena of idiocy? How is it that brutes with senses resembling our own have minds so markedly distinguished from our own? The sensations of the idiot are as vivid and varied as those of a rational man: the differences arise in the *cerebrations* of the two. Condillac felt the force of the objection respecting brutes, and attempted to elude it, first by asserting that brutes had less perfect sensations of touch, 'et par conséquent il ne sauroit être pour elles la cause occasionnelle de toutes les opérations qui se remarquent en nous;' and secondly, by assuming that the 'soul of brutes was of an essentially different order from that of man.'* To the first we reply, that idiots and apes have the perfect sense of touch, without the perfection of mind assumed as following from it; to the second, that it is a mere evasion of the difficulty.

Finally, if Sensation is the origin and end of all mental faculty, how is it that men of vivid sensuous activity are not also the men of powerful intellect, which they notoriously are not; how can such a case as that of Laura Bridgman be explained?—a girl born deaf, dumb, and blind, yet manifesting unusual and varied intellectual activity. The biologist sees no difficulty here; nor does the ordinary psychologist. The one sees a cerebral organism with its inherited aptitudes, ready for its work; the other sees a Mind, with its constituent faculties. But the sensationalist has no such refuge. Unless, indeed, he belongs to that biological school which traces the development of Sensibility throughout the animal series, and notes the derivation of the faculties from organic developments, so that what was simple sensation at first, gradually becomes identified with the form of Sensibility peculiar to cerebration. It was no such idea as this, however, which guided Condillac. He saw that sensation was the origin of all mental phenomena; and not seeing how the faculties could be identical with sensation, he really presupposed their existence while proclaiming them to be only transformations.

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* Loc. cit.

I said that verbal analysis was accepted in lieu of a biological analysis. This points to a peculiarity in Condillac's system. It was his merit to have seen, and clearly exhibited, the immense influence exercised by language over thought. It was his mistake to have exaggerated that influence, and to have drawn the conclusion that a perfect science is only a perfect language.* There can be no doubt that when a science is perfect its language will be perfect also; but Condillac reverses this, and says that we see science forming itself as its language is formed; and in simplifying language we render the science more facile. Here he forgets his own remark, 'Parceque nous donnons des noms à des choses dont nous avons une idée, on suppose que nous avons une idée de toutes celles auxquelles nous donnons des noms.' †

Words are the signs of ideas, and language is a means by which reasoning is carried on, not the reasoning itself. Condillac affirms that without names we should have no abstract ideas; but the reverse is true: without the power of abstraction we should never need the names which are only signs of the abstracts. 'Si nous ne raisonnons,' he says, 'qu'avec le secours de ces dénominations, c'est une nouvelle preuve que nous ne raisonnons bien ou mal que parceque notre langue est bien ou mal faite.' So completely did he invert the real process that he declared the art of reasoning was reduced to a well-constructed language, 'because the order in our ideas is itself only the subordination existing in the names given to genera and species.'

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* 'Une science bien traitée n'est qu'une langue bien faite.' *Langue des Calculs*, p. 7. Comp. pp. 142, 163.

† *Logique*, p. 50.

Starting on the false supposition that a verbal analysis could lead to anything more than verbal analysis, it seemed to him that metaphysics was capable of the same precision as geometry, if only the expressions were as accurately determined; * and his analysis of the mind is a remarkable illustration of the facility with which a man may seem to say a good deal merely by naming things in a new way. Let any one examine Condillac's genesis of the faculties, and he will find that it is solely a process of naming.

I will begin at the beginning, and show that under the one name of Sensation he includes two really different things, that is to say, two phenomena having different bases, and although allied by a community which unites all the phenomena of Sensibility, nevertheless these two are as rigidly to be demarcated, in virtue of their specific differences, as any other two phenomena. Sensation and Ideation are two distinct functions. They have two distinct organs. To speak of Cerebration or Ideation as the same phenomenon exhibited by the organs of Sense—to call an idea a 'transformed sensation'—is equivalent to calling a muscular motion a transformed sensation. In the one case, as in the other, a sensation is the starting-point; in the one case, as in the other, the starting-point is not the sequence. A sensation stimulates a muscle into action; a sensation stimulates the Cerebrum into action. The Neurility of an ingoing nerve is transformed into Sensibility in the Centre, and again retransformed into Neurility in the outgoing nerve, which again is transformed into Contractility in the muscle. This is the sequence, as I have elsewhere endeavoured to prove; and the sequence is the same whether the final phenomenon be a thought or an action; the only difference being that in the one case the Sensibility of a Centre is reflected on the Cerebrum, in the other it is reflected on a muscle.†

* *Essai sur l'Origine des Connaissances*, p. 2.

† *Physiology of Common Life*, ii.

By Sensation therefore must be understood that form of Sensibility which belongs to the organs of Sense—including, of course, those important, but generally neglected, sensibilities which arise from the viscera and from muscular actions. The Centres of these are the various sensory ganglia at the base of the brain and in the medulla oblongata, with the ganglia imbedded in the spinal cord.

Is Ideation the same thing? It also is a form of Sensibility *—the peculiar property of ganglionic tissue—but it is a *special* form, the action of a special organ. It cannot be separated from sensation, any more than movement can be separated from sensation; but that it is the action of a special organ, and subject to special laws, suffices to demarcate it from the activity of the senses.

The error of Condillac and his followers, though mainly due to their disregard of biological method, was encouraged by the common notion that ideas are only faint impressions, copies of sensations. They are not impressions at all. Condillac says that an idea is a remembered sensation, and this remembrance is only a lesser degree of vivacity in the sensation. The idea is something else; so far from being the sensation in a lesser degree, it is not the sensation at all; it is altogether different from the sensation. Although every man who has experienced tooth-ache can have a very distinct idea of it (in other words, he can think of, and talk of tooth-ache), we defy him to detect in his idea any repetition of the feeling. Nor is this wonderful; sensation is the product of a distinct part of the nervous system, the Senses; ideas are the product of another distinct part of the nervous system, the Cerebrum: sensation is *feeling*, thought is *thinking*.

The ambiguities of language have in this case been assisted by the nature of our sensations. Thus all our visual ideas, inasmuch as they assume shape, do *seem* like faint sensations; the reason is that although it is a very different thing to *look* at the sun and to *think* of it, yet, in thinking, our idea corresponds in some measure with our sensation: the idea is of a round, yellow, luminous body, and is not improperly called an *image* of the sun. If it is an image of the sun, we easily conclude that it is a faint copy of our sensation. But, in the case of other senses, there is no difficulty in detecting the error. When we say that we can *recall the sensation* of hunger, we verbally confound our power of thinking a thing with our power of feeling it. There is in truth a generic distinction between Thought and Sensation, which it is fatal to overlook: nor could it have been overlooked but for the introduction and adoption of that much-abused word 'idea,' instead of thought.

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* 'Les idées sont, comme les sensations, des manières d'être de l'âme.' CONDILLAC: *Logique*, p. 83. True enough; but not the same *manières d'être*. Motion and secretion are modes of vital activity, but no one supposes them to be the same.

I do not believe that under normal conditions we can recover a sensation, but only the ideal sequence of the sensation. Prof. Bain, who of all psychologists, as it appears to me, has approached nearest to the truth here, remarks, that the 'exact tone of feeling, the precise inward sensation due to a state of hunger, is almost irrecoverable and unimaginable in a state of comfortable repletion.' I believe it to be utterly irrecoverable. 'But,' he adds, 'the uneasy movements, the fretful tones, the language of complaint, are all easy to recall; they belong to the more intellectual part of the system; and by these we can recover some portion of the total fact, which is also just about as much as we can communicate to a second person. The digestive state for the time being rules the tone of sensation so effectually, that we cannot by any effort restore the currents due to an entirely opposite state; we can only recover the more revivable accompaniments.'* The reason of this I take to be simply the impossibility of displacing a sensation (e.g. that of repletion) by an idea. The sensation of hunger was due to a peculiar stimulus of the nervous system; so long as that stimulus was present, the sensation was present; when another stimulus replaced it, another sensation succeeded, but in the presence of that stimulus no other sensation was recoverable. The 'revivable accompaniments' were not sensations, but the *sequences* of sensations, ideal elements. When Prof. Bain contrasts the sense of sight with the sense of hunger, and says 'that we can recover a picture or vision of fancy almost as exactly as we saw it, though not so strongly,' and thinks that this gives to the sense of sight its 'intellectual character,' he appears to me to overlook the generic distinction between Sensation and Thought, a distinction which Condillac and his school systematically set aside. 'We can repossess ourselves,' he adds, 'of the exact scene as it lay to the eye; in *fact the sensation itself is the most retainable part of the whole.*' I cannot but think that, if Prof. Bain will reconsider this statement, he will admit that the sensation itself is precisely *the* part which is *not* retainable, not recoverable; for although the image of the landscape beheld in memory is like the actual scene which we gazed upon—or, in more accurate language, although we are similarly affected by the remembrance as by the original stimulus—this is because landscape in perception is constituted by a variety of intellectual inferences—all its relations of space, form, solidity, &c., being purely ideal elements, and these *only* are the elements present in the remembrance, the actual *sensations* not being present at all. What therefore is recoverable, is the purely ideal part of the whole; what is irrecoverable, the sensational. Precisely as in the case of hunger: we can recall some effects of hunger, even when quietly digesting dinner, but we cannot recall the sensation of hunger when we are not hungry.

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* BAIN. *The Senses and the Intellect*, 1st ed. p. 337. (The passage is omitted in the second edition.)

The point in dispute is so important, and is so intimately bound up with the whole doctrine of the Sensational School, forming indeed the battle-ground of all psychological doctrine, that we must consider it with more than a passing attention. The confusion of Sensation with Ideation, is Condillac's systematic error; but it is an error from which few, if any writers, even of the spiritualist schools, have been free. Explicitly, or implicitly, these two phenomena have been regarded as two aspects of the same thing. The rigorous demarcation of Sensation as one process, from Cerebration as another process—each dependent on its separate nervous centre—will be found in no psychological treatise. Nevertheless Comparative Anatomy has succeeded in demonstrating the independence of the organs of Sense and the Brain; although no one has yet succeeded in detecting the true relations which connect these independent centres, and make them act together. We know that the Brain is as much an *addition* to the organs of Sense as these organs are additions to the nervous system of the simpler animals. Low down in the animal scale we can detect no trace at all of a nervous system; ascending a few steps, we detect a simple ganglion with its prolongations; ascending higher, we detect a more complex arrangement of ganglia, and rudimentary organs of Sense; ascending still higher and higher, we detect more complex organs of Sense, and a rudimentary Brain; till at last we arrive at man, with his complex organs and his complex Brain. But so independent is the Brain, that even in the human species cases occur of 'anencephalous monsters,' that is to say, children born without any Brain whatever; and these children breathe, suck, cry, and struggle, like other children.

Granting this, we grant that the functions, Sensation and Ideation, are as independent as the organs of which they are the functions; and although Ideation is organically connected with Sensation, yet it is not more so than Muscular Motion is connected with Sensation.

It is customary to speak of the organs of Sense as if they were simple organs; we must not innovate in this matter, although we find it needful to remind the reader that each special sense is really the function of a complex apparatus of organs. The apparatus of Sight, for example, may be separated into at least three parts:—1st, for the reception of impressions of light; 2nd, for the transmission of those impressions (i. e. the nerve with its Neurility); 3rd, for the sensation (i. e. the ganglion with its Sensibility). Of these the last only need here be specially considered, and may be called the *Sensational Centre.* In this centre the external stimulus becomes a sensation; from this centre the sensation is generally (not always) propagated to the Cerebrum, which in turn may propagate the influence to the muscles or glands.

Every sense, whether it be one of the five special senses, or of the so-called 'organic senses' (such as those of the alimentary canal and of muscular activity), has its own special centre, or *sensorium*: but there seems to be no ground for assuming, with Unzer and Prochaska, the existence of any one general *sensorium,* to which these all converge; and I shall speak therefore of the *Sensational Centres* as the seats of sensations derived from the stimuli which act on the organs of sense. Considered as Sensational Centres, they are perfectly independent of the Brain; they may and do act without implicating the Brain, for they will act when the Brain is absent; a bird deprived of its cerebrum manifests unequivocal symptoms of being sensitive to light, sound, etc. But in the normal state of the organism these centres are intimately connected with the Brain; and the stimuli which affect them directly, indirectly affect the Brain. Light, impinging on the retina, determines a change in the optic Sensational Centre: this change is usually propagated to the Cerebrum; and as the first change was a sensation, so is the second an idea; this idea may excite other ideas, or it may be so faint in its influence as to be almost immediately absorbed, and then we are said to be 'scarcely conscious' of the sensation—meaning that we thought very little about it: an example of which is the little attention we pay to the clock striking when we are engaged in study, if the fact is indifferent to us; we hear it, but do not think of it the next moment; if on the other hand the striking of the clock is not indifferent to us, the various thoughts which it awakens make us eminently 'conscious of the sensation.' In the heat of battle, a sword passes through a man's arm, and nevertheless the wound is followed by no pain or 'consciousness;' the stimulus which under ordinary circumstances would have been propagated from a Sensational Centre, and thence radiating to the Cerebrum, would have roused up manifold ideas, namely, of consequences, what was necessary to be done, &c., is prevented from so radiating, and is not carried beyond the Sensational Centre.

Not only can we have sensations without being conscious of them—i. e. without thinking about them; we can also think with perfect freedom when all the Sensational Centres (except those of organic life) are unaffected by any external stimulus, i. e. when we have no special sensations. We do so when awake in bed during the stillness of night: the senses are in repose, the Brain is active.

Thus is the independence of Ideation and Sensation proved psychologically and anatomically: and with this proof we destroy the basis of Condillac's doctrine. But even on other grounds we may reject his theory of the origin of knowledge. It rests on two positions;—the first is the identification of all knowledge with sensation; the second is the dogma of our faculties not being innate. The first is the doctrine of Gassendi and Hobbes. It is thus stated by Diderot, one of Condillac's most celebrated pupils:—'Every idea must necessarily, when brought to its state of ultimate decomposition, resolve itself into *a sensible* representation or picture; and since everything *in* our understanding has been introduced there by the channel of sensation, whatever proceeds *out* of the understanding is either chimerical or must be able, in returning by the same road, to re-establish itself according to its sensible archetype. Hence an important rule in philosophy, That every expression which cannot find an external and sensible object to which it can thus establish its affinity, is destitute of signification.' *

This is true enough, and has already been insisted on (p. 314); but although ideas have their origin in sensations they are not themselves sensations; they are formed from sensations, but are not sensible pictures. The least experience is sufficient to convince us that we have many ideas which cannot be reduced to any *sensible picture* whatever; or, to prevent any of the ambiguity which belongs to the word 'idea,' let us rather say we have many thoughts which cannot be reduced to pure sensations. If the elements are given by Sense, they are combined in new ways by Thought. We can think of virtue or goodness, of patriotism or scoundrelism, without being able to form mental pictures of these ideas, although each element in these composite wholes is reducible to a sensation.

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* Quoted by DUGALD STEWART, *Philosophical Essays*, p. 166.

Now for the second point: Condillac, as already hinted, was the first to catch a glimpse of the important truth that our *faculties* are not innate—are not even connate; but he bungled in attempting to trace the genesis of these faculties. That men are not born with the powers of reasoning, remembering, imagining, is a proposition which will meet with very little credit at first. A little experience and reflection, however, show us that as the baby certainly cannot reason, remember, or imagine, these being faculties subsequently and slowly developed, we must conclude that the mental faculties are only *potentially* in the new-born child (which is saying that they are not there at all. See *Prolegomena* IV. § 52). The baby can no more reason than he can talk. He *learns* to do both; and, before he can learn them, the powers of his cerebrum no less than the muscles of his vocal organs must grow, be developed, and strengthened by exercise. Man is no more born with reason than an acorn is born an oak. The infant and the acorn, though they contain that within them which, under fitting circumstances, will be developed into reason in the one, and foliage in the other, cannot be said to have as yet either reason or foliage.

This important distinction is obtruded upon our experience in our daily observation of children. Condillac has the merit of having seen it first; but he saw it very imperfectly, and failed altogether to make any good use of it. As an example: He who told us that our faculties were not innate, but were 'acquired habits,' tells us, when he comes to the genesis of those faculties, that they spring into existence at once—are born full-grown—the acorn suddenly leaps into an oak. Thus his famous statue has Memory, Judgment, Desire, &c., as soon as it has Sensations. This is enough to show that if Condillac discovered an important fact, he only stumbled over it, and knew not its significance.* Let us hope that, if England is to produce any new system of Psychology, this most important point will not be overlooked: the growth and development of our faculties is as much a part of Psychology, as the growth and development of our organs is a part of Biology.†

But although Condillac must be pronounced wrong in his identification of Thought with Sensation, the attempt itself was a legitimate hypothesis, and had the effect of all hypotheses, in giving a precise direction to research. It was an attempt to discover the mechanism of the mind: it could not succeed because it was an attempt to discover a mechanism by a verbal analysis of the phenomena. We shall see presently, in Hartley and Darwin, a nearer approach to the objective study of the mechanism; but before doing so, it may be well to glance at the exceptional merits of Condillac, which secured for him an European renown.

Above all praise is the transparent clearness of his language, and the painstaking effort to condense metaphysical mists into tangible water. It was an unfortunate day for French Philosophy when—in blind reaction against doctrines which were misconceived, and therefore shuddered at—men relinquished the clear language of the 18th century for the vaporous eloquence, and the mystical jargon, which dreads clearness as a ghost dreads daylight. The descent from

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* The only person who, to our knowledge, has made any use of this fact is Dr. Beneke, who has made it the basis of his whole philosophy. See his *Neue Psychologie*, also the *Lehrbuch der Psychologie* (Berlin, 1845).

† Since this was written (1846) Mr. Herbert Spencer has expounded the development of the faculties in his very remarkable *Principles of Psychology* (1855).

Condillac to Maine di Biran and Victor Cousin is immense; and a deterioration of French Philosophy has accompanied this fall.

Many excellent remarks and acute analyses will be found in his very readable volumes. I would direct attention to his explanation of what Leibnitz and Hamilton have emphasized respecting the unconscious modifications of the mind;[*] and to the ingenious account of Memory as the tendency of the fibres of the brain to vibrate in the way they have formerly vibrated: 'on a des idées dans la mémoire comme on a dans les doigts des pièces de clavecin: c'est à dire que le cerveau a, comme tous les autres sens, la facilité de se mouvoir suivant les déterminations dont il s'est fait une habitude.'[†]

Although Condillac assuredly was not a Materialist in the strict sense of that term, yet, according to the lax interpretations of antagonists, his system being one which 'led to' Materialism by its identification of Thought and Feeling, and both with movements of the nerve fibres, the world has discredited his belief in the spirituality of the soul. Indeed, just as Descartes practically set aside all reference to the Creator, by expounding a system of the universe in which only matter and motion were factors; so did Condillac practically set aside all reference to a spiritual entity, by expounding a system of Psychology in which only sensation and its transformation were factors. The elimination in each case was certain to be made by successors.[‡] And although, what is called Materialism I hold to be as entirely beside the true science of positive Psychology, as the doctrine of 'vortices' is beside the positive science of Cosmology, yet, in both cases, I regard the fundamental hypothesis in the light of an immense advance. Condillac destroyed, at any rate for a time, the metaphysical superstitions respecting mental operations. He set aside the unknowable entity, and attached himself to the knowable phenomena. Had it not been for the supposed moral and political consequences deducible from his mode of looking at phenomena, Psychology would now have been in a far more matured condition; but terror at the consequences produced a reaction against his point of view, and thus prevented a rectification of his errors, and a development of his method.

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[*] *Essai sur l'Origine des Connaissances*, pp. 43 *sq.*

[†] *Logique*, ch. ix. pp. 82 *sq.*

[‡] See the chapter on DESTUTT DE TRACY, further on.

Two great schools of Psychology have divided the attention of Europe: that of Descartes, starting from pure Thought, and employing the Deductive Method: and that of Locke, starting from Sensation, and employing the Inductive Method. The main defect of the first has been the predominance of the Subjective Method, which has led to the disregard of the conditions of Thought, and all its manifold relations to the external medium. The main defect of the second has also been a too great reliance on this Method, and an imperfect appreciation of the objective relations. Occupied with the spirituality of the mind, the Cartesians have attempted to deduce conclusions from their conceptions of a spiritual substance. The rival school, taking an opposite point of departure, has been too exclusively occupied with the senses, and has confounded Sensation with Thought. The Scotch School of Psychologists attempted a compromise; but having failed to see that Psychology was a branch of Biology, continued to employ the old Subjective Method — with what results we shall see.

The doctrine of transformed sensations was a step in advance, if only because it fixed the attention of psychologists upon the verifiable processes, and withdrew them from interminable and profitless discussions respecting the nature of the soul—its qualities as a spiritual substance, its modes of action as a spirit. But the doctrine was in no other sense an advance. It explained nothing; it only named anew processes already known. The traveller whom we have seen attempting to explain the phenomena of the clock (*Prolegomena* § 19), after having rejected the hypothesis of the clock being an animal, arrived at the conclusion that the pendulum is the primary cause. Now, suppose him to have been a disciple of Condillac, he would, ingeniously enough, argue that the ticking, the striking, and the movements of the hands, were all 'transformed pendulum-motions;' which indeed they are; but what is learned by learning this, unless at the same time the mechanism of transformation be displayed? Would our traveller have known more of the clock, by knowing that its phenomena were transformed pendulum-motions? Would he have been able to regulate the clock's action, or, when some accident had disturbed its mechanism, would he have been able to repair it? Brought thus to apply his knowledge, he would have discovered its infertility; the necessity for a real analysis would have taught him the vanity of his verbal analysis.

This, then, may be said to be the significance of Condillac: he helped to withdraw men from the contemplation of a metaphysical entity, but he could not guide them in objective research. Let us see how it fared with his successors.

# CHAPTER II.

## *HARTLEY.*

### § I. Life of Hartley.

DAVID HARTLEY, the son of a Yorkshire clergyman, was born on the 30th of August, 1705. He went to Cambridge at fifteen, and became a Fellow of Jesus College. Originally destined for the Church, he had scruples about signing the Thirty-nine Articles, and gave up the Church for Medicine, which he subsequently practised with great success.

When only twenty-five years of age, he conceived the design and commenced the execution of his celebrated *Observations on Man, his Frame, his Duty, and his Expectations*, led thereto, as he tells us in the Preface, by hearing that 'the Rev. Mr. Gay had asserted the possibility of deducing all our intellectual pleasures and pains from association.' Mr. Gay published his views in a dissertation prefixed to Law's translation of King *On the Origin of Evil*; but, although Hartley acknowledges having derived the suggestion from Gay, it is clear to all readers of his work that he had thoroughly mastered, and made his own, the principle of Association as the primary law of intellectual combination. Hartley did not publish his *Observations* till 1748, eighteen years after the scheme was first laid. The year before, according to Dr. Parr, he published a small treatise as a precursor to this work. 'You will be astonished to hear,' Dr. Parr writes to Dugald Stewart,* 'that in this book, instead of the Doctrine of Necessity, Hartley openly declares for the indifference of the will, as maintained by Archbishop King.' And the reader will be astonished to hear that Hartley does no such thing! Dugald Stewart, who had not seen the work referred to, remarks that 'it is curious that, in the course of a year, Hartley's opinions on so very essential a point should have undergone a complete change;' still more curious, however, that Dr. Parr should have read the work and discovered in it such a mare's-nest. The tract in question is reprinted in the volume of *Metaphysical Tracts by English Philosophers of the Eighteenth Century. Prepared for the Press by the late Rev. Samuel Parr, D.D. London*, 1837—a volume precious to metaphysical students, because it contains Collier's *Clavis Universalis* and *Specimen of True Philosophy*. If the reader will turn to the third of these tracts, *Conjecturæ quædam de Sensu, Motu, et Idearum Generatione*, without date, he will find that it is nothing more nor less than an abstract, in Latin, of the first part of Hartley's *Observations*; and that the question of Free-will is nowhere opened in it. I can only suppose that Dr. Parr, unacquainted with physiological speculations, was misled by the admirable discussion of automatic and voluntary actions (pp. 31–35), into the notion that Hartley there espoused the doctrine of Free-will; but I am surprised that Sir W. Hamilton should have allowed the error to pass uncorrected in his edition of Stewart's Dissertation.

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* Stewart's *Dissertation*, part ii. p. 355 of Hamilton's edition.

Hartley died on August 25, 1757, aged fifty-two, and left a name so distinguished for piety and goodness, that it in a great measure shielded his doctrines from the reprobation they have often incurred when promulgated by others.

## § II. HARTLEY'S SYSTEM.

Combining a suggestion thrown out by Newton at the end of his *Principia*, and in the questions annexed to his *Optics*, respecting vibrations of an ether as the cause of sensation, with the doctrine of Locke respecting Association of Ideas, Hartley produced a system of Psychology, which is historically curious as the first attempt to explain the physiological mechanism of psychological phenomena. If not worth much as a contribution to Philosophy, it is very noticeable as an effort to connect intellectual with physical phenomena; and, however subsequent writers may have ridiculed, not without excuse, the vibrations and vibratiuncles which Hartley substituted for the old metaphysical conceptions, it is certain that his attempt to explain the phenomena physiologically has very much influenced the thoughts of succeeding speculators.

'Man,' he says, 'consists of two parts, body and mind.' Does he mean by this to proclaim the existence of a distinct immaterial entity superadded to the body? According to the terms of his definition, on the first page of his work this seems to be his intention; for he defines it as 'that substance, agent, principle, &c., to which we refer the sensations, ideas, pleasures, pains, and voluntary motions.' Yet the whole system of vibrations seems to imply the contrary; and, at the close of the first part of his work, he declares that he holds himself aloof from the question altogether. He will not deny the immateriality of mind: 'On the contrary, I see clearly, and acknowledge readily, that matter and motion, however subtly divided, yield nothing more than matter and motion still. But then neither would I affirm that this consideration affords a proof of the soul's immateriality.' He thinks, with Locke, that it is quite possible the Creator should have endowed matter with sensation; but he will not undertake to affirm it as a truth. 'It is sufficient for me that there is a certain connection of one kind or other between the sensations of the soul, and the motions excited in the medullary substance of the brain.'* A more rigorous logic would have forced him into a more decided opinion; for this question of the soul's immateriality is one vitally affecting the system of vibrations; and his adversaries have had little difficulty in showing the insufficiency of 'vibrations' to explain the phenomena of an immaterial mind. Between the immaterial principle and these material vibrations, they saw an impassable gulf: let the ether vibrate never so rhythmically, it always remains 'vibrating ether,' it cannot become 'sensation,' or 'thought;' nor does Hartley bridge over the gulf by the assumption of an 'infinitesimal elementary body intermediate between the soul and the gross body,' to which, and from which, the vibrations of the nerves are communicated; the radical difficulty remains the same.

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* Compare also Scholium to Prop. 5 (vol. i. p. 33). 'I do not by thus ascribing the performance of sensation to vibrations excited in the medullary substance, in the least presume to assert that matter can be endued with the power of sensation. It is common to all systems to suppose some motions attendant upon sensation, since corporeal objects must by their actions impress some motion upon our bodies;' and *Conjecturæ quædam de Sensu, &c.*, p. 41.

It may be objected, perhaps, that those who point out the defect in Hartley's hypothesis are themselves open to a similar charge, since they assume an immaterial principle to be affected by a material change, and assume the mind to be in connection with the body, following its alterations. But there is this difference between them and Hartley: they do not pretend to explain how mind is affected by body, he does. They accept, as an ultimate fact, what he attempts to elucidate; and it is his elucidation which they refuse to acknowledge.

His first proposition is, that 'The white medullary substance of the brain, spinal marrow, and the nerves proceeding from them, is the immediate instrument of sensation and motion.' Modern physiologists maintain precisely the reverse of this, declaring the *grey* matter to be the seat of sensation and motion. I may say, in passing, that both these positions seem to be erroneous in their exclusiveness; and that the white as well as the grey substance must be present, just as the zinc and copper plates must both be present in the galvanic battery.

Hartley continues: 'External objects impressed upon the senses occasion, first, in the nerves on which they are impressed, and then in the brain, Vibrations of the small—or, as one may say, infinitesimal—medullary particles. These Vibrations are motions backwards and forwards, of the same kind as the oscillation of pendulums, and the tremblings of the particles of sounding bodies. They must be conceived to be exceedingly short and small, so as not to have the least efficacy to disturb or move the whole bodies of the nerves or brain. For that the nerves should vibrate like musical strings is highly absurd.'

The proof that external objects impress vibratory motions on the nerves is seen in the continuation of a sensation, 'since no motion besides a vibratory one can reside in any part for the least moment of time.' The vibrations are propagated by the ether which penetrates the pores of the nerves, and the vibrations of the ether 'agitate the small particles of the medullary substance of the sensory nerves with synchronous vibrations, in the same manner as the vibrations of the air in sounds agitate many regular bodies with corresponding tremblings.' 'One may conjecture, indeed, that the rays of light excite vibrations in the small particles of the optic nerve by a direct and immediate action. And it may also be that sapid and odoriferous particles are agitated with specific vibrations, and they communicate these directly to the small particles of the gustatory and olfactory nerves as well as to the interjacent ether.'

He uses vibrations as synonymous with sensations. 'The quantity of matter in bodies is always found to be proportional to their gravity: we may therefore either make the quantity of matter the exponent of the gravity, or the gravity the exponent of it, *according as either may be ascertained*. . . . And by a parity of reasoning, if that species of motion which we term vibrations can be shown by probable arguments to attend upon all sensations, ideas, and motions, and to be proportional to them, then we are at liberty either to make vibrations the exponents of sensations, ideas and motions, or these the exponents of vibrations, as best suits the inquiry; however impossible it may be to discover in what way vibrations cause sensations and ideas, i.e. though vibrations be of a corporeal and sensations and ideas of a mental nature.'

The passage in italics ought to have arrested him. A little reflection would have disclosed that while gravity and mass may severally be taken as exponents of each other, because sometimes one, and sometimes the other, may more easily be measured. Vibrations and sensations do not stand on a similar footing. The sensation must always be more easily determined than the vibration—the latter indeed being hypothetical. Since Hartley wrote, the advance of science in this direction has been such as to give a high degree of probability to the general doctrine of vibrations; but even now our knowledge of sensations is much more certain, and much more easily ascertainable, than that of the vibrations actually involved. We could not use the one as exponent of the other, with the freedom of a physicist choosing between gravity and mass.

Let me here point out the radical insufficiency of Hartley's doctrine of vibrations. It is an hypothetical machinery substituted for that of Condillac, which adds nothing to our knowledge of psychical processes. To call them vibrations and vibratiuncles, or to call them sensations and transformed sensations, enlarges not our horizon. What we want is to trace the mechanism of thought; the doctrine of vibrations might help us, if from the known laws of vibratory bodies we could deduce explanations of mental phenomena hitherto unexplained—such, for instance, as the phenomena of polarisation and interference, in the case of Light. And I believe such deductions can be made; but not upon Hartley's vague theory; nor did he attempt to make any. Indeed, so entirely aloof is the hypothesis of vibrations from any psychological process, as explained by Hartley, that when Priestley abridged the work he omitted the hypothesis altogether, and it was never missed.

To say that vibrations produce sensations throws little light. What is the specific velocity and sweep of each vibration? *That* would be valuable knowledge. The researches of modern physicists have measured with surprising accuracy the *kind* of vibration which determines each specific sound, and each specific colour, and which determines the sensation of heat; but they have not yet measured the vibrations which determine touch, tickling, taste or smell. Hartley never thought of descending from the generalities to such specialities. He contented himself with calling sensations vibrations, as his predecessors had called them motions of animal spirits. In no respect can I detect an advance upon the doctrine so well expounded by the Cartesian, De la Forge.[*] The only effect of the hypothesis is to make his work repulsive and slightly ridiculous in the eyes of some readers, and needlessly wearisome to others.

Moreover, note how entirely the biological method was disregarded even by a physician who had so far escaped from the metaphysical trammels as to reduce intellectual phenomena to vibrations. The clock was not 'taken to pieces' even by Hartley. Subjective analysis still furnished the datum which objective analysis would speedily have disclosed to be false, namely, that ideas were faint sensations, and that both sensations and ideas had one seat..

But although, like Condillac, Hartley failed to throw any light upon the physiological process, he carried still further than Condillac the fertile suggestion that psychological processes were in truth physiological, and must be sought in the organic mechanism; and he has the immense superiority over Condillac, that having clearly seen the significance of the fundamental Law of Association, he was enabled to give that Law an extent of application no one had previously suspected. Nay, more: he applied it to those physiological phenomena which still interest and perplex philosophers, namely, the voluntary and involuntary actions. His twenty-first proposition, and the elucidations which follow, deserve to be read even at the present day.[†]

The Law of Association, by which most if not all our intellectual processes are regulated, has been copiously illustrated by Scotch and English psychologists, though scarcely used by the German and French; and whoever sees the importance of the Law will be grateful to Hartley for his services in establishing it; the more so because the vibrations and vibratiuncles have long since passed into the limbo of abortive efforts, and Hartley's name is seldom cited.

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[*] De la Forge: *Remarques sur l'Homme de René Descartes.* Paris, 1729, pp. 190-7.

[†] The student may also compare the passage in the *Conjectura*, p. 34.

# CHAPTER III.

## *DARWIN.*

ALTHOUGH even more neglected than Hartley by the present generation, Darwin, once so celebrated, deserves mention here as one of the psychologists who aimed at establishing the physiological basis of mental phenomena.

Erasmus Darwin was born at Elton, near Newark, on the 12th of December, 1731. After studying at St. John's College, Cambridge, and taking his degree of Doctor of Medicine at Edinburgh, he established himself as a physician in Lichfield, married twice, had three sons, and died in the seventieth year of his age, on the 18th of April, 1802. As a poet, his *Botanic Garden* (1781) by its tawdry splendour gained him a tawdry reputation; as a philosopher, his *Zoonomia; or Laws of Organic Life* (2 vols. 4to, 1794-6), gained him a reputation equally noisy and fleeting.

Although couched in different language, Darwin's theory is substantially the same as Hartley's: for 'vibrations' he substitutes 'sensorial motions.' By the sensorium Darwin means 'not only the medullary part of the brain, spinal marrow, nerves, organs of sense, and of the muscles; but also at the same time that living principle, or spirit of animation, which resides throughout the body without being cognizable to our senses, except by its effects.' The changes which occasionally take place in the sensorium, as during the exertions of volition, or the sensations of pleasure or pain, are termed *sensorial motions*.*

The medullary substance, he thinks, passes along the nerves and mingles with the muscular fibres. The 'organs of sense consist in like manner of moving fibres enveloped in the medullary substance.' The word *idea* has various meanings, he says, and to give it precision he defines it as 'a contraction or motion, or configuration of the fibres which constitute the immediate organ of sense. Synonymous with the word *idea* we shall sometimes use the words *sensual motion*, in contradistinction to *muscular motion*.'

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* *Zoonomia*, vol. i. p. 10.

He then undertakes to prove the existence of these sensual motions, and deduces from this proof the fact that as we advance in life all the parts of our bodies become rigid, and are consequently less susceptible of new habits of motion, though they retain those already established. Hence only the young can learn; hence the aged forget the events of yesterday and remember those of infancy.*

'If our recollection, or imagination, be not a repetition of animal movements, I ask, in my turn, What is it? You tell me it consists of images or pictures of things. Where is this extensive canvas hung up?—or where the numerous receptacles in which these are deposited?—or to what else in the animal system have they any similitude? That pleasing picture of objects, represented in miniature on the retina of the eye, seems to have given rise to this illusive oratory! It was forgot that this representation *belongs rather to the laws of light than to those of life*; and may with equal elegance be seen in the camera obscura as in the eye; and that the picture vanishes for ever when the object is withdrawn.' †

Had Darwin left us only the passage just cited, we should have credited him with a profounder insight into Psychology than any of his contemporaries, and the majority of his successors, exhibit; and although the perusal of *Zoonomia* must convince every one that Darwin's system is built up of absurd hypotheses, Darwin deserves a place in history for that one admirable conception of Psychology as subordinate to the laws of life. So little has this conception been appreciated, that not only are systems of Psychology constructed in serene indifference to Physiology, but many of the questions agitated in mental Physiology are hopelessly entangled because men will not, or cannot, discriminate between problems of Physics and problems of Physiology; between phenomena regulated by laws of inorganic matter, and phenomena regulated by laws of organic matter. Thus the questions, Why with two eyes do we see objects *single?* and, Why do we not see objects *inverted*, since their images are inverted on the retina? have puzzled thousands; and not one of the attempted solutions has recognised the important fact that the problems are *psychological*, not optical nor anatomical, consequently cannot be settled by optics or anatomy; angles of incidence, and decussation of optic nerves, have nothing to do with the phenomena the moment after the Sensational Centre has been affected. We might as well attempt to deduce the assimilation of sugar from the angles of its crystals, or from the sand-like disposition of its grains, as to deduce the perception of an object from the laws of optics: the crystals and grains of sugar must first be *destroyed*, and the sugar made soluble, before it can be assimilated; the retinal images must, in like manner, first be transformed in the Sensational Centre before they can, through that Centre, affect the Cerebrum.

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* *Zoonomia*, vol. i. p. 27.

† *Ibid*. p. 29. In BAIN's *Senses and the Intellect*, p. 60 *sq*., the reader will find the old theory of a *sensorium*, or chamber of images, which DARWIN here pushes aside, satisfactorily refuted from the physiological point of view.

That this is no gratuitous hypothesis, but expresses the actual process of perception, in as far as that process has been ascertained, may perhaps be made clear from the following considerations: When I say that the perception of a visual object is a psychological act, not in any way explicable by the laws of optics, or by any investigation of the anatomical structure of the optic apparatus, I ground that assertion on certain authoritative facts; for example, I take up the vexed question of our perceiving an object as single, although two images are formed on the two retinas; and instead of endeavouring to explain it by delicate anatomy of the retina, or the decussating fibres of the optic nerves, I at once remove it from that circle of discussion by classing it with phenomena precisely analogous. We see objects single with two eyes; but we also hear sounds as single with two ears; we smell odours as single with two nostrils; we feel objects as single with five fingers. How is it that no physiologist has reflected on the bearing of these facts? If the ordinary explanations of optical perception are correct, why do not auditory and olfactory nerves decussate, and so the whole mystery be cleared up? No sooner is attention called to the fact of single hearing and single smelling, with two auditory and two olfactory nerves, than we at once cease to regard single vision with two optic nerves as anything special, and we try if a psychological explanation will not avail. I believe the explanation to be very simple. *We cannot have two precisely similar sensations at precisely the same instant; the simultaneousness of the two sensations renders them indistinguishable.* Two sounds of precisely the same pitch and intensity, succeeding each other by an *appreciable* interval, will be heard as two sounds; but if they succeed each other so rapidly that the interval is inappreciable, no distinction will be felt, and the two will be heard as one, because heard simultaneously.

The fact of our being able to see an image reflected on the retina of an animal, and of our being able to explain on optical principles the formation of that image, has very much misled physiologists in their efforts to comprehend the sensation; they have naturally imagined that in vision we see the retinal image;* whereas, unless I am altogether mistaken, we see nothing of the kind—we are affected *by* that retinal image, as in hearing we are affected by a wave of air, but do not perceive the wave; or as in smelling we are affected by the action of volatile substances on the olfactory nerve, but do not perceive the substances. We only perceive the changes effected in us by these agents.

The various Sensational Centres are *variously* affected by the *same* stimuli: electricity giving to the gustatory nerve the stimulus of savorous bodies, to the auditory nerve the stimulus of sonorous vibrations, to the optic nerve the stimulus of luminous bodies, to the tactile nerves the stimulus of touch. Pressure on the eye causes luminous spots to be seen; we seem to see fire-flies. The pressure of over-distended blood-vessels produces spectral illusions, and we *see* daggers in the air as vividly as any at our sides. Unhappy students well know the 'singing in the ears' produced by over-study. Nor is this all: narcotics introduced into the blood excite in each Sensational Centre the specific sensation normally excited by its external stimuli: giving the appearance of luminous spots to the eyes, of singing in the ears to the auditory nerves, and of 'creeping sensations' to the nerves of touch.

The reason of this is that each Sensational Centre has its specific manner of being affected, no matter what the specific nature of the thing affecting it. While only certain things affect it sensationally, all those which *do* affect it, do so in a specific manner. Light, for instance, affects the optic centre, but produces no appreciable effect on the auditory, gustatory, or tactile centres; nevertheless the optic centre may be affected by pressure, by narcotics, or by electricity, precisely in the same way as by light. The vibrations of a tuning-fork, which affect the auditory centre as sound, affect the tactile centre as 'tickling,' not 'sound.'

From these indubitable facts it is not difficult to elicit a conclusion, namely, that sensation depends on the Sensational Centre and not on the external stimulus; that stimulus being only the cause of the sensational change. Whether the retina be directly affected by rays of light issuing from an object, or the optic centre be affected by the pressure of congested blood-vessels, in each case we *see*, in each case the optic centre is affected in that specific manner in which alone it is capable of being affected. Consequently inasmuch as the visual sensation depends on the optic centre being affected, and does *not* depend on the formation of an image on the retina, we have no alternative but to admit that the *retinal affection is transformed by the Sensational Centre*, and there the *impression* first becomes a *sensation.*

It may be added as confirmation of the foregoing doctrine respecting the centre as the seat of sensation, that Müller has cited examples of luminous spectra being excited by internal causes after the complete destruction of the retina, and 'Luicke relates the case of a patient who after the extirpation of the eye for fungoid disease perceived all kinds of luminous appearances independently of external objects.' *

When therefore it is asked, Why do we see objects *erect*, when they throw *inverted* images on the retina? the answer is, Because we do not see the retinal image at all; we see, or are affected by, the object; and our perception of the erectness of that object does not depend on vision, but on our conceptions of space and the relations of space—which are not given in the visual sensation, but are ideal conceptions: conceptions which are acquired in a complicated series of inferences, according to most philosophers; which are 'forms of thought,' according to Kant; but which are by no school held to be immediate elements of sensation.

We thus return to the position that in every act of consciousness the impression on the nerve becomes transformed into a sensation only in the Sensational Centre; and the old theories of 'eidola,' 'images,' 'impressions,' are seen to be untenable. Just as the crystals of sugar have to be decomposed, and the sugar transformed into glucose, the glucose transformed into lactic acid, before sugar can be assimilable in the organism, so have the retinal images to be decomposed in the optic centre before a visual *sensation* can be produced. Attempt a more direct process, and failure is inevitable: cane-sugar injected into the veins is expelled in the urine as a foreign substance, not assimilable; and, in like manner, the most dexterous adjustment of rays of light falling *immediately* on the optic ganglion, not transmitted thereto by the optic nerve, would produce no visual sensation.

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* Müller: *Physiology*, Eng. Trans. i. 1072.

To call sensations and ideas by the vague name of motions, is to violate the conditions of philosophic language, and to mislead those who accept it into the belief that an explanation has been given in the change of term. That Darwin was by it misled into absurdity will be apparent in the following attempt to explain perception :—

'No one will deny,' he says, 'that the medulla of the brain and nerves has a certain figure; which, as it is diffused through nearly the whole of the body, must have nearly the figure of that body. Now it follows that the spirit of animation, or living principle, as it occupies this medulla and no other part, has also the same figure as the medulla . . . which is nearly the figure of the body. When the idea of solidity is excited, a part of the extensive organ of touch is compressed by some external body, and this part of the sensorium so compressed exactly resembles *in figure* the figure of the body that compressed it. Hence when we acquire the idea of solidity we acquire at the same time the idea of *figure*; and this idea of figure, or motion of *a part* of the organ of touch, exactly resembles *in its figure* the figure of the body that occasions it: and thus exactly acquaints us with this property of the external world.'*

He is thus brought back to the old conception of the mind being 'impressed' by the exact forms of objects, as wax is impressed by a seal. As he proceeds he gets more and more absurd. Thus he says, although 'there may exist beings in the universe that have not the property of solidity; that is, which can possess any part of space at the same time that it is occupied by other bodies; yet there may be other beings that *can assume this property of solidity or disrobe themselves of it occasionally*, as we are taught of spirits and of angels; and it would seem that the *spirit of animation* must be endued with this property, *otherwise how could it occasionally give motion to the limbs of animals?*—or be itself stimulated into motion by the obtrusions of surrounding bodies, as of light or odour?'† He is led to this by the Spinozistic axiom, that 'no two things can influence or affect each other which have not some property common to both of them,' which axiom destroys the possibility of spirit acting on body. Hartley, as we saw, tried to get over this difficulty by assuming the existence of a substance intermediate between body and spirit. Darwin finds it easy to assume that the spirit has the power of putting on or putting off the properties of matter just as it pleases. 'Hence the spirit of animation at the time it communicates or receives motion from solid bodies must itself possess some property of solidity. And at the time it receives other kinds of motion from light, it must possess that property which light possesses to communicate that motion named Visibility. In like manner it possesses Saporosity, Odorosity, Tangibility, and Audibility.'*

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* *Zoonomia*, pp. 111–12.

† *Ibid.* p. 114.

This is enough to show how little Darwin understood the real value of his luminous idea respecting Psychology based on the laws of life; enough also to make everyone understand how philosophers rebelled against such 'materialism' as issued from the explanation of mental phenomena by 'sensory motions.' Before finally quitting the *Zoonomia* we must pause a moment over the explanation of our feeling for Beauty. He describes the sensations of the babe when 'soon after it is born into this cold world it is applied to its mother's warm bosom,' and the agreeable influences which thus grow up in the mind associated with the form of the bosom 'which the infant embraces with its hands, presses with its lips, and watches with its eyes; and thus acquires more accurate ideas of the form than of the odour, and flavour, or warmth, which it perceives by its other senses. And hence in our maturer years, when any object of vision is presented to us, which, by its waving or spiral lines, bears any similitude to the form of the female bosom,—whether it be found in a landscape with soft gradations of rising and descending surface, or in the form of some antique vases, or in the works of the pencil or chisel—we feel a general glow of delight which seems to influence all our senses; and if the object be not too large, we experience an attraction to embrace it with our arms, and to salute it with our lips, as we did in our early infancy the bosom of our mother.'* One of the happiest illustrations of the generally false saying, that ridicule is a test of truth, is the reply of Sheridan to this theory of Beauty. 'I suppose,' said he, 'that the child brought up by hand would feel all these emotions at the sight of a wooden spoon!'

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* *Zoonomia*, i. 115.

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* *Zoonomia*, i. 145.

## CHAPTER IV.

### *DESTUTT DE TRACY.*

THE germinal error of Descartes was developed by Spinoza into a system from which Philosophy shrank back appalled. The germinal error of Locke was developed by Berkeley and Hume into systems equally repugnant to common-sense. The germinal error of Condillac was developed by the Sensational School, and received its logical expression in Destutt de Tracy; and Philosophy in alarm once more threw herself into the arms of the theological party, calling upon Metaphysics and Rhetoric for aid in her distress.

Condillac, as we have seen, admitted the existence of a spiritual entity, over and above the faculties and their acts, (which he identified with sensations). But in his system this entity was a superfluous existence. It was altogether inoperative; being neither the seat of the mind's actions, nor the shaping cause of them. The faculties, which Locke had vaguely presupposed as existent in every mind, Condillac declared to be evolved in the act of sensation. And De Tracy came to suppress Condillac's inoperative entity. Laplace told Napoleon that the simple reason why, in his exposition of the system of the world, he had not mentioned the Creator, was because 'he had no need of that hypothesis.' In the same way De Tracy had no need of the hypothesis of a spiritual entity, in expounding the system of mental phenomena.

Antoine Louis Claude Destutt de Tracy was born July 20, 1754. His family was of Scotch extraction. The clan Stutt having sent four of its sons to join the Douglas in his defence of Charles VII. against the English, these young soldiers, after serving in the *garde Écossaise* of Charles and Louis XI., were endowed with lands in the Berri; and from one of them, married to a De Tracy of Nivernais, descended the philosopher.

After serving a brilliant career as a soldier, De Tracy joined the revolutionary party and sat in the Constituent Assembly by the side of Lafayette. Becoming *suspect*, like so many other patriots, he was imprisoned, and would assuredly have perished on the 11th Thermidor—the day fixed for his trial—had not the memorable events of the 9th Thermidor suddenly put an end to the Reign of Terror. It was during his imprisonment, indeed only four days before the 9th thermidor, that he conceived the design of the system he was afterwards to develope. Having previously prepared himself for scientific investigation by assiduously following in the footsteps of Fourcroy and Lavoisier, he resolved on analysing Thought as these great investigators analysed Matter.

Condillac was his guide. From him was borrowed the principle that sensation was not simply the primitive element of all intelligence, but the sole element. All the faculties, all the acts of the mind, were reduced to sensation. There were four fundamental acts: perception, which was the sensation of objects; memory, the sensation of remembrances; judgment, the sensation of relations; and will, the sensation of desires. *Penser c'est sentir.*

The three first faculties are our means of acquiring knowledge. The fourth is our means of action. That all four are due to the senses is evident. The external object produces an impression on our nerves, and the nerves, by a movement peculiar to them, transmits this impression to the brain. The brain, which is endowed with a peculiar force [not defined or otherwise described] receives the impression, and converts it into (1) a perception, if the object be present; into (2) a remembrance, if the object be absent; into (3) a relation, if several objects at once bring the image of their resemblances or their differences; into (4) a ratiocination, if there are several relations; and, finally, if the object rouses desire, it provokes another movement to satisfy it; and this produces *action*, as the previous movement produced *knowledge*. Thus knowing and willing are the resultants of two organic operations, one dependent on the other.

It is needless, after what has already been said, to point out the defects of this system. All we have to note here is its logical development of Condillac's germinal error. As in Condillac, we find in De Tracy much ingenious analysis, and some suggestions which Psychology may profit by. One luminous principle he had conceived, namely, that Psychology is a part of Biology, though in the very terms of its announcement we see that he had imperfectly apprehended it: *L'idéologie est une partie de la zoologie.* It was this principle which Cabanis asserted still more effectively.

# CHAPTER V.

## *CABANIS.*

PIERRE JEAN GEORGES CABANIS was born on the 5th of June, 1757, at Conac near Brives. The dear friend of De Tracy, he was both prized as a thinker by Turgot, D'Holbach, Franklin, Condorcet, Mirabeau, Diderot, and D'Alembert, and prized as a physician by numerous patients. He died on the 6th of May, 1808.

We have traced the course of psychological investigation in its attempts to detect the mechanism of mind up to the point it had attained in the system of De Tracy. The announcement that ideology was a part of zoology, is but the systematic expression of a tendency dimly discernible even in Locke, who, as Victor Cousin complains, is fond of drawing facts from savages, children, and animals. Condillac in his *Traité des Animaux* had boldly claimed the validity of inferences deducible from animals; but a thorough application of the Comparative Method was not practicable at that period.

The prejudices of that age forbade it. The ignorance of that age made it impossible. Comparative Physiology is little older than Goethe, and Comparative Psychology is only now glimmering in the minds of men as a possibility. If men formerly thought they could understand man's body by dissecting it, and did not need the light thrown thereon by the dissection of animals; they were still less likely to seek psychical illustrations in animals, denying, as they did, that animals had minds.

The school of Locke, therefore, although regarding Mind as a property of matter, consequently directing attention to the human organism, trying to understand the mechanism of sensation, and thus dealing with tangible realities instead of with impalpable and ever-shifting entities, was really incompetent to solve the problems it had set itself, because its Method was imperfect, and its knowledge incomplete. The good effect of its labours was positive; the evil, negative. Following out this positive tendency, we saw Hartley and Darwin advancing still nearer to a true Method;—by a bold hypothesis, making the phenomena dependent on vibrations in the nerves; thus leading to a still more precise and *definite* consideration of the organism.

These were, however, tentatives guided by no distinct conception of the necessary relation between organ and function; and the biological Method, truly so called, must be first sought in the work of Cabanis: *Rapports du Physique et du Moral de l'Homme.*[*]

A disciple of Condillac, he nevertheless saw, more distinctly than any man before him, one radical vice of Condillac's system, namely, the limitation of mental phenomena to sensations, and the non-recognition of connate instincts. If sensation were the admitted source of all mental phenomena (and Cabanis rightly made these phenomena include more than 'ideas'), it became the duty of philosophers to examine the nature of sensation itself. 'No one,' he says, 'had clearly explained in what the act of sensibility consists. Does it always presuppose consciousness and distinct perception? And must we refer to some other property of the living body all those unperceived impressions and movements in which volition has no part?' To put this question was to inaugurate a new study. It became necessary to examine whether all mental phenomena were not reducible to the fundamental laws of sensibility. 'All the while that the Intellect is judging and the Will is desiring or rejecting, many other functions are going on, all more or less necessary to the preservation of life. Have these diverse operations any influence, the one on the other? And is it possible from the consideration of different physical and moral states, which are observed simultaneously, to seize the relations which connect the most striking phenomena, with such precision as to be certain that in the other less obvious cases, if the connection is less easily detected, it is so simply because the indications are too fugitive?'

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[*] This work originally appeared as a series of *Mémoires* read before the Institute (1798–99). It was published as a separate book in 1802, under the title *Traité du Physique et du Moral de l'Homme;* which title is also borne by the second edition of 1805. Not until 1815, and after the death of Cabanis, was the word *Rapports* substituted for *Traité.*

This conception of a possible Psychology is in itself enough to mark for ever the place of Cabanis in the History of Philosophy. It establishes Psychology as one branch of the great science of Life. It connects the operations of intelligence and volition with the origin of all vital movements. It makes Life and Mind correlatives. This was a revival of the great truth clearly recognised by Aristotle, from whom it descended to the Schoolmen. 'Impossibile est,' says Aquinas, very emphatically, 'in uno homine esse plures animas per essentiam differentes, sed una tantum est anima intellectiva, quæ vegetativæ et sensitivæ et intellectivæ officiis fungitur.' The division of Life and Mind as two distinct entities was introduced by the Italians of the Renaissance, adopted by Descartes and Bacon, and once more rejected by Stahl, who returned to the Aristotelian conception. With the fall of Stahl's doctrine, the separation of Mind from Life again became the dictum of the schools, until Cabanis; no one since Cabanis seems to have been thoroughly impressed with the unity of the two till Mr. Herbert Spencer presented it as the basis of psychological induction.* The consequences were immediate: if Mind was to be studied as one aspect of Life, it could only be efficiently studied on that inductive and experimental Method which had reached the certain truths of positive science: 'Les principes fondamentaux seraient également solides; elles se formeraient également par l'étude sévère et par la composition des faits; elles s'étendraient par les mêmes méthodes de raisonnement.' Cabanis warns his readers that they will find nothing of what is called Metaphysics in his book; they will only find physiological researches, *mais dirigées vers l'étude particulière d'un ordre de fonctions.*

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* SPENCER: *Principles of Psychology*, 1855.

In the purely physiological direction, indeed, Cabanis had many predecessors, from Willis in the middle of the seventeenth century, to Prochaska, who preceded Cabanis by one year only.* The nervous system had of course been studied by physiologists, and this study led them to form psychological theories; but although we may find elsewhere, especially in Unzer and Prochaska, sounder views of the physiology of the nervous system, we find nowhere so clear and large a conception of physiological Psychology as in Cabanis.

'Subject to the action of external bodies,' he says, 'man finds in the impressions these bodies make on his organs at once his knowledge and the causes of his continued existence; for to live is to feel; and in that admirable chain of phenomena which constitute his existence, every *want* depends on the development of some *faculty;* every faculty by its very development satisfies some want, and the faculties grow by exercise as the wants extend with the facility of satisfying them. By the continual action of external bodies on the senses of man, results the most remarkable part of his existence. But is it true that the nervous centres only receive and combine the impressions which reach them from these bodies? Is it true that no image or idea is formed in the brain, and that no determination of the sensitive organ takes place, other than by virtue of these same impressions on the *senses* strictly so called?' †

This question cuts away the very root of Condillac's system. Cabanis had no difficulty in showing that Condillac's limitation of our mental phenomena to the action of the special senses was a contradiction of familiar experience, e. g. the manifold influence exercised by the age, sex, temperament, and the visceral sensations generally. A survey of the human organism, compared with that of animals, conducted him to the following conclusions :—

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* *Lehrsätze aus der Physiologie des Menschen,* 1797. Curiously enough the second and third editions of this work were exactly contemporaneous with the second and third editions of CABANIS, 1802 and 1805 (counting the publication in the *Mémoires de l'Institut* as one edition). It is not to be supposed that CABANIS knew of PROCHASKA's existence; nor is there more than a general resemblance in their physiological conclusions.

† *Deuxième Mémoire,* § ii.

'The faculty of feeling and of spontaneous movement forms the character of animal nature.

'The faculty of feeling consists in the property possessed by the nervous system of being warned by the impressions produced on its different parts, and notably on its extremities. These impressions are internal or external.

'External impressions, when perception is distinct, are called *sensations*.

'Internal impressions are very often vague and confused, and the animal is then only warned by their effects, and does not clearly distinguish their connection with the causes.

'The former result from the application of external objects to the organs of sense; and on them *ideas* depend.

'The latter result from the development of the regular functions, or from the maladies to which each organ is subject; and from these issue those determinations which bear the name of *instincts*.

'Feeling and movement are linked together. Every movement is determined by an impression, and the nerves, as the organs of feeling, animate and direct the motor organs.

'In feeling, the nervous organ reacts on itself. In movement it reacts on other parts to which it communicates the contractile faculty, the simple and fecund principle of all animal movement.

'Finally, the vital functions can exercise themselves by the influence of some nervous ramifications, isolated from the system: the instinctive faculties can develope themselves, even when the brain is almost wholly destroyed, and when it seems wholly inactive.

'But for the formation of thoughts it is necessary that the brain should exist, and be in a healthy condition: it is the special organ of thought.'*

He justly repudiates any attempt to explain Sensibility: it must be accepted as a general property of organised beings, in the same way that attraction is accepted as a general property of bodies. No general property admits of explanation. It can only be subordinated to some other property, and be explained by it, on the supposition that it is *not* general. Accepting Sensibility therefore as an ultimate fact in the organic world, Cabanis detects its phenomena running through all those called vital and all those called mental.

'It is something,' he says, 'to have established that all ideas and all moral phenomena are the results of impressions received by the different organs; and I think a still wider step is taken when we have shown that these impressions have appreciable differences, and that we can distinguish them by their seat and the character of their products, although they all act and react on each other, on account of the rapid and continual communications with the sensitive organ.'† The object of his treatise is to examine the relations existing between the moral and physical conditions, how the sensations are modified by modifications in the organs, how ideas, instincts, passions are developed and modified by the influences of age, sex, temperament, maladies, &c. It is not therefore a treatise on Psychology, but contributions towards a science of Pyschology, and as such may still be read with advantage, although the science of the present day rejects many of its physiological details. He foresaw that this would be so. 'Le lecteur s'apercevra bientôt que nous entrons ici dans une carrière toute nouvelle. Je n'ai pas la prétention de l'avoir parcouru jusqu'au bout; mais des hommes plus habiles et plus heureux achèveront ce que trop souvent je n'ai pu que tenter.'

As a specimen of inductive Psychology, we must not pass over in silence his experimental proof of instinct being developed by certain organic conditions. He takes one of the most marvellous of instincts, that of maternal love, and having analysed its physiological conditions, he says, 'In my province, and some of the neighbouring provinces, when there is a deficiency of sitting hens, a singular practice is customary. We take a capon, pluck off the feathers from the abdomen, rub it with nettles and vinegar, and in this state of local irritation place the capon on the eggs. At first he remains there to soothe the pain; soon there is established within him a series of unaccustomed but agreeable impressions, which attaches him to these eggs during the whole period of incubation; and the effect is to produce in him a sort of factitious maternal love, which endures, like that of the hen, as long as the chickens have need of aid and protection. The cock is not thus to be modified; he has an instinct which carries him elsewhere.'

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* *Deuxième Mémoire*, § viii. † *Ibid.* § v.

The novelty of the conception which Cabanis put forth, and the interest attached to many of his illustrations, made his work very popular; but its influence was only indirect. The ignorance which almost all psychologists continued to display, not only of Physiology, but of the necessity of a physiological Method, together with the alarm excited by the accusation of 'materialism,' aided as it was by the reaction, mainly political, but soon extending itself to philosophical questions, which condemned the labours of the eighteenth century, left Cabanis with few adherents and no continuers. In elaborate works the brain was still designated as the 'organ of the Mind,' but the Mind was passionately declared *not* to be the function of the brain; the profounder views of Cabanis, which regarded Mind as one aspect of Life, were replaced by the old metaphysical conceptions of *le Moi*,—the Ego,—the immaterial Entity *playing upon* the brain as a musician plays upon an instrument.* Instinct was no longer regarded as determined by the organism, changing with its changes, rendered abortive by mutilations, and rendered active by stimulation; but as a 'mysterious principle implanted' in the organism: a 'something' which, although essentially mysterious and unknowable, appeared to be perfectly well known to the metaphysicians.

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* One living writer, of authority, has gravely declared that mental fatigue is the consciousness which the *mind* has of the *brain's* weariness! In our confessed inability to understand what matter *is*, why will men persist in dogmatising on what it *is not!* We know absolutely nothing either of matter or spirit, we only know phenomena.

By an unfortunate phrase, Cabanis gave his antagonists an advantage, and impeded the progress of his own views. He was understood to say that the brain secretes thought as the liver secretes bile. He said nothing of the kind, but his language lent itself easily to the misconception; and the ridicule and disgust which assailed it seriously damaged the dignity of the physiological method. This is what he did say: 'Pour se faire une idée juste des opérations dont résulte la pensée, il faut considérer le cerveau comme un organe particulier destiné spécialement à la produire (had he stopped here, few would have seen anything to cavil at; but he added), de même que l'estomac et les intestins à opérer la digestion, le foie à filtrer la bile.'* This is really saying no more than that thought is the function of the brain; and the difference between that, and the ordinary conception of the brain as 'the organ of the mind,' is simply the difference between precise and lax language. But the unlucky words 'digestion,' and the 'secretion of bile,' made many readers suppóse that Cabanis held thought to be a secretion.

It is true that the language of Cabanis is ambiguous, and leads to the interpretation that thought is a secretion, although he really means that thought is a function. Such ambiguity is deplorable. But that it was merely a verbal laxity may be seen in the following passage. 'We see the aliments fall into the stomach; we see them pass out with new qualities, and we conclude that it has impressed on them a real alteration. We also see the impressions reaching the brain by the channels of the nerves; they are then isolated and without coherence. The organ (*viscère*) reacts upon them, and soon metamorphoses them into ideas, which speech and gesture manifest externally. We conclude with the same certitude that the brain digests, so to speak, the impressions,—qu'il fait organiquement la sécrétion de la pensée.' When a man permits himself to say that we *see* impressions reaching the brain through the nerves, and see the brain metamorphose these impressions into ideas, he may permit himself to say that thought is a secretion; but that this was not really his opinion will appear on an attentive study of his work. Like most psychologists and biologists, he had but hazy conceptions of function; and like most of the writers of his school, he had but an imperfect sense of the value of accuracy of expression. But I do not think that he meant what he is supposed by antagonists to have meant. I think he meant simply to indicate that thought was a function of the brain, as digestion was a function of the intestinal canal.

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* CABANIS: *Rapports*, ii. *Mémoire*, § vii.

Certainly, if he did regard thought as a secretion, the error was monstrous, and the outcry against him was justifiable. I shall have to recur to this subject in speaking of the materialism of certain writers of our own day in Germany.

## CHAPTER VI.

### *SUMMARY OF THE SIXTH EPOCH.*

CONSIDERED as a contribution to Philosophy, the labours of the Sensational School have mainly an indirect value. They found Philosophy reduced to a question of Psychology, and found Psychology itself in so imperfect a condition as to be unable to give any reliable guidance. The question of the origin of knowledge necessarily involved the whole subject of mental operations. To determine whether we had any ideas independent of Experience, it became necessary to ascertain what Experience was—what were its conditions and limitations. To determine this, it was necessary to ascertain the relations of the mind to the body. If once it could be settled that the phenomena of mind were simply phenomena of the organism, a positive science of Psychology would become possible, and its results would have the same validity as those of the physical sciences. From the earliest times Philosophy had admitted that the Mind only manifested itself through the organs of the Body, and that these manifestations were all subject more or less to material conditions. But from the time of Descartes there had been a strong repugnance against every suggestion which seemed to rob the Intellect of its entity, and identified mental with vital phenomena. The independence of the Mind as an entity was regarded as a first truth, required by Metaphysics no less than by Theology. To doubt this truth was to 'overthrow all morality, to reduce man to the level of the brute, to make Religion a mockery.' To doubt this truth was, in fact, to incur the most incriminating of charges—Materialism.

Nevertheless, good and pious men were forced to doubt this first truth, in spite of the odium which they knew would fall on them. And although partly from terror, and partly from the effect of old metaphysical prejudice, most of the Sensational School clung to some vague admission of a spiritual entity, whose active interference was, however, quietly ignored, nevertheless the inevitable tendency of their teaching was clearly seen by antagonists, and finally avowed by their successors.

A decision became indispensable. If the Intellect were admitted as an independent existence, having powers not gathered from organic conditions, there could be no *scientific* exposition of the conditions and limitations of human knowledge. It was always open to assume the existence of innate ideas, of truths transcending those gained through experience, and of criteria not amenable to the canons of experience. And if (the existence being admitted) all the operations of the mind were limited by organic conditions, then indeed a science became possible, but the preliminary hypothesis became superfluous.

To this dilemma the Sensational School had successfully brought Philosophy. It had presented the alternative of considering Psychology as a branch of Biology, and Mind as only one aspect of the equally mysterious Life; or of once more falling back upon Metaphysics which modern Science gloried in having escaped from for ever.

The first issue was too repulsive for the majority of philosophers. It was repulsive because it disturbed the sacred associations of awe which surrounded the mystery of Mind, and because it was said by antagonists to lead to degrading and immoral conclusions; which it did *not*, and which it could not lead to, if true; though antagonists chose to affirm that it was not true, because they assumed that it led to the immoral conclusions. While thus repulsive in its first aspect, it had the great disadvantage of not being sufficiently precise in its indications, or coercive in its arguments, to carry conviction to the unwilling mind. No great depth or subtlety was required to see that Hartley and Darwin, De Tracy and

Cabanis, were far from accounting satisfactorily for the phenomena; yet only by the force of demonstration could their disagreeable conclusions get acceptance.

There was, therefore, a general revolt. The second issue was eagerly chosen. The reaction in favour of Metaphysics triumphed for a time over what was called the Eighteenth Century Philosophy, though its real struggle was with the Sensational School. We shall trace that reaction in Scotland, Germany, and France.

# SEVENTH EPOCH.

## *Second Crisis: Idealism, Scepticism, and Sensationalism producing the reaction of Common Sense.*

# CHAPTER I.

## *REID.*

DUGALD STEWART opens his *Account of the Life and Writings of Thomas Reid* with remarking that the life was 'uncommonly barren of those incidents which furnish materials for biography;' and as our space is scanty, we will content ourselves with a bare enumeration of such facts as may be useful for reference. Thomas Reid was born in 1710, at Strachan, in Kincardineshire. He was educated at Marischal College, Aberdeen. In 1752 he occupied the chair of Moral Philosophy in Aberdeen. In 1764 appeared his *Inquiry into the Human Mind on the Principles of Common Sense.* 'In 1763[*] the *Inquiry* received a still more substantial testimony of approbation from the University of Glasgow,' in the offer of the chair of Moral Philosophy, vacant by the resignation of Adam Smith. In 1780 Reid resigned his office, and passed the remaining years of his life in retirement and study. In 1785 appeared his *Essays on the Intellectual Powers.* He died in Glasgow in 1796, having survived four of his children.

Reid's philosophy made a great stir at first, but has for some years past been sinking into merited neglect. The appeal to Common Sense as arbiter in Philosophy is now pretty well understood to be on a par with Dr. Johnson's kicking a stone as a refutation of Berkeley. Indeed Dugald Stewart himself was fully alive to the inconsequence of such an argument, and endeavoured to shield his master by saying that the phrases 'Common Sense' and 'Instinct' were unhappily chosen. Unfortunately they were not mere phrases with Reid; they were principles. It is impossible to read the *Inquiry* and not see that Reid took his stand upon Common Sense;[*] and Beattie and Oswald, his immediate disciples, are still more open to the charge.

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[*] STEWART: but there must be some error here. If the *Inquiry* was not published till 1764, REID could not in 1763 have been offered the chair at Glasgow as a 'testimony of approbation.'

It would carry us to great lengths if we were to examine all the questionable tenets contained in the philosophy of Common Sense. We cannot, however, pass the supposed triumph over Locke, who said that personal identity consists in Consciousness; 'that is,' continues Reid, 'if you are conscious you did such a thing a twelvemonth ago, this consciousness of what is past can signify nothing else but the remembrance that I did it; so Locke's principle must be, that Identity consists in remembrance; and, consequently, a man must lose his personal identity with regard to everything he forgets.' Here Locke is altogether misstated. Consciousness does not resolve itself into any single act of memory, as Reid would here have us believe, nor can personal identity be limited to any one act. I have the consciousness of a certain mental state, wherewith is connected the remembrance of a certain anterior state, which was also connected with an anterior state, and so on. The rope is made up of many strands, and although some of these may be out of sight, not one is broken. I am connected with my boyhood by a regular series of transmitted acts of consciousness. I may have forgotten a thousand things, but I have not forgotten myself: if *one* act performed yesterday is forgotten to-day, *all* are not forgotten; and to remember one, however indistinctly, is sufficient to keep up the continuity of consciousness. Let those who fancy the sentiment of personal identity does not consist in the consciousness of personal identity, show us in what it does consist.

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[*] 'I despise Philosophy, and renounce its guidance: let my soul dwell with Common Sense.' (*Inquiry*, ch. i. § 3.) Let it be observed, in passing, that by Reid's disciples the *Inquiry* is regarded as his best work.

We come now to Reid's great achievement, that upon which he declared his philosophical fame to rest: the refutation of Berkeley and Hume by the refutation of the Ideal theory. This he considered as his contribution to Philosophy; this has been made the monument of his glory. It appears to us, after a long acquaintance with his writings, and a careful perusal of what his critics and admirers have advanced, that his sole merit in this respect is that of having called attention to some abuses of language, and to some examples of metaphors mistaken for facts. How much confusion the word 'idea' has always created need scarcely be alluded to; and any attempt to destroy the acceptation of the word as tantamount to *image*, must be welcomed as salutary. So far let us be grateful to Reid. But whatever abuses may have crept in with the use of the word 'idea,' it seems quite clear that Berkeley and Hume are not to be refuted by refuting the hypothesis of ideas, as Reid and his school suppose.

Let us, to avoid useless discussion, take it for granted that philosophers did adopt the theory of ideas which Reid combats; let us also grant that Reid has overturned that theory. What advance is made towards a solution of the problem? Not one step. The dilemma into which Hume threw Philosophy remains the same as ever. As I cannot transcend the sphere of my Consciousness, I can never know things except as they act upon me—as they affect my Consciousness. In other words, a knowledge of an external world is impossible, otherwise than as it appears to my Sense, which transforms and distorts it.

This proposition may be said to form the ground of Scepticism. Now, we ask, how is that proposition affected by overthrowing the ideal theory? What does it signify whether the 'affections of my consciousness' be regarded as 'images' or not? They do not remain less purely *subjective* whichever way we regard them. They are changes *in me.* The main position of Scepticism is precisely this subjectivity of knowledge. Because we cannot transcend Consciousness we can never know things *per se.* Reid acknowledges that we cannot know things *per se;* but he says that we must believe in them, because in what we do know their existence is *suggested.* This is exactly the opinion of Locke; nay more, it is the doctrine of Hume: for he says that we believe in an external world, though we have no good reason for believing it. Sir J. Mackintosh relates that he once observed to Dr. Thomas Brown that he thought Reid and Hume differed more in words than opinions; Brown answered, 'Yes, Reid bawled out we must believe in an outward world; but added, in a whisper, we can give no reason for our belief. Hume cries out we can give no reason for such a notion; and whispers, I own we cannot get rid of it.'

Reid ought to have seen that his refutation of the ideal theory left Idealism and Scepticism untouched:* for either doctrine it matters little *how* the knowledge be acquired, so that it be entirely subjective. The argument brought forward by Dugald Stewart—that the belief in the existence of an external world is one of the Fundamental Laws of Human Belief—is more philosophical; but when he says that Berkeley's Idealism was owing to the unhappy and unphilosophical attempt of Descartes to prove the existence of the world, he forgets that Idealism was known in the ancient schools long before any one thought of proving the existence of matter. Moreover, although Stewart's formula is not open to the same objections as Reid's, yet it leaves the vital question untouched.

No one doubts that we believe in the existence of an external world. Idealism never questions the fact. The only doubt is, whether that belief be objectively as well as subjectively valid. To say that the belief in objective existence is a Fundamental Law, is simply saying that *we are so constituted* that we are forced to attribute external reality to our sensations. As well say we are so constituted that fire applied to our bodies will give us pain. We *are* so constituted. What then? Does this advance us one step? Not one. We have still to seek some proof of the *laws of our constitution* being the measure of the *laws of other existences*—still to seek how what is true of the subjective must necessarily be true of the objective.

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* In fact MALEBRANCHE's Idealism, which is very similar to BERKELEY's, is founded on a theory of Perception almost identical with REID's.

Thus, granting to Stewart all he claims, we see that he does not attain to the heart of the question; and, strictly speaking, he does not touch Berkeley at all; he only touches Hume. For what answer can it be to Berkeley, to say that our Belief in matter is a Fundamental Law, not to be questioned? Berkeley would reply: 'Exactly; I said as much. I said that men believed their senses, and believed that what they saw was *out* of them. This is the law of human nature: God has so ordained it. But that which men do *not* believe, is the existence of an occult substance, an imaginary world lying underneath all appearances. You do not mean to assert that the belief in this substance is a Fundamental Law? If you do, you must be mad.' Stewart's answer is thus shown to be quite *beside* the mark.

Reid constantly declares that no reason can be given for our belief; it must be referred to an original instinctive principle of our constitution implanted in us for that express purpose. If this be so, we ask upon what pretence does Reid claim the merit of having refuted Idealism and Scepticism by refuting the ideal hypothesis? If *instinct* and not *reason* is to settle the question, then has the *ideal hypothesis* nothing to do with it; if the refutation of the ideal hypothesis sufficed, then has instinct nothing to do with it. 'To talk of Dr. Reid,' said the *Quarterly*, in its review of Stewart's Second Dissertation, 'as if his writings had opposed a barrier to the prevalence of sceptical philosophy, is an evident mistake. Dr. Reid successfully refuted the principles by which Berkeley and Hume endeavoured to establish their conclusions; but the conclusions themselves he himself adopted as the very premisses from which he reasons. The impossibility of proving the existence of a material world from "reason, or experience, or instruction, or habit, or any other principle hitherto known to philosophers," is the argument and the *only* argument by which he endeavours to force upon us his theory of instinctive principles.'

It appears, then, that inasmuch as Reid declares *instinct* to be the *only* principle upon which we can found our belief in an external world, his argument against Berkeley is trebly vicious. First, because the *belief* was never questioned; secondly, because although we must *act* according to our instincts, such a necessity is no proof that our *beliefs are true*; thirdly, because if instinct, and not reason, is to be the arbiter, the attack on the ideal hypothesis is utterly beside the question.

Thus we see that, granting to Reid the glory he claims of having destroyed the ideal hypothesis, he has only destroyed an outpost, fancying it to be the fortress. A few words on his own theory of perception may not be out of place here.

He justly enough declared the ideal hypothesis to be gratuitous. We have no reason for supposing that the mind perceives images of things instead of the things themselves. But he overlooks, or rather denies, the fact that we perceive things *mediately*; he says we perceive them *immediately*. His explanations are contradictory and confused, but he repeats the assertion so often, that there can be no doubt he meant to say we perceive things immediately: the mind stands face to face with the thing, and perceives it immediately, without any medium of ideas, images, eidôla, or the like. In this we believe him utterly in the wrong; his battle against 'ideas' carried him too far. It is one thing to say that *we are affected by the things*, and not by *images* of things; and another thing to say that we *perceive things immediately*. The former is correct; the latter is in direct contradiction with all we know of perception; and Reid constantly contradicts himself on the point.

'When I attend,' he says, 'as carefully as I can to what passes in my mind, it appears evident that the *very thing* I saw yesterday, and the fragrance I smelled, are now the *immediate objects* of my mind when I remember it. . . . Upon the strictest attention, memory appears to me to have the things that are past, *and not present ideas*, for its objects.'

This is his position against the ideal hypothesis which assumes that nothing is perceived but what is in the mind which perceives it: that we do not really perceive things which are external, but only certain images and pictures of them imprinted on the mind. The position is untenable. The very thing, the rose, of which he thinks, is not an immediate object at all: *it* is elsewhere. The fragrance cannot even be recalled: that is to say, cannot be *felt* again, but only *thought*. All we can remember is the fact of having been affected by the rose in a certain manner: that affection we call fragrance: we cannot recall the affection. Reid could hardly therefore have meant what his words literally express. Perhaps he meant, that when we think of the rose and the fragrance, the object of which we think is the rose, not an idea of the rose. But what a truism! He says, that 'in memory the *things* that are past, and not present *ideas*, are the objects of the mind.' This is either a needless truism or a falsism. Let us alter the sentence thus—'In memory the *things thought* of are not themselves present to the mind, but the *thoughts* only are present to it.' Reid would not dispute this—could not dispute it: yet it is only a more guarded statement of the ideal hypothesis; it substitutes 'thoughts' for 'ideas.' He was misled by the ambiguity of the word 'object,' which he uses as if meaning simply what the mind is thinking of; and of course the mind thinks of the thing, and not of the idea. But the ideal hypothesis takes 'object' to be that which is immediately present to—face to face—with the mind, viz. an idea, or thought; and of course the mind thinks *by* its thoughts:

it may think about the thing, but it is through the medium of thought.

The difference is this:—The Idealist says, that when things affect us, our sensations are what we perceive, and not the things producing those sensations. Reid says, we feel our sensations, but therewith also we perceive the things. The Idealist further says, that when we think of things, the immediate object face to face with the mind is not a thing but an idea (thought.) Reid says the object is the very thing: which is either an absurdity, or else does not differ from the ideal hypothesis.

We are quite ready to admit that the pretended separation of thoughts from thinking, and the making thoughts 'objects,' is vicious; and therefore Reid's language is perhaps less objectionable. But we must confess that we see no other advantage he gains over his adversaries. He does not pretend that our sensations are at all *like* their causes; nay, he fancies that he destroys the ideal hypothesis by insisting on the want of resemblance between matter and our sensations. He says, over and over again, that the external world is in no respect like our sensations of it. 'Indeed, no man can conceive any sensation to resemble any known quality of bodies. Nor can any man show, by any good argument, that all our sensations might not have been as they are, though no body, nor quality of body, had ever existed.'* This granted, the question arises, How do you know anything of the external world? Reid answers, 'It is owing to an original instinct implanted in us for that purpose.' Push the question further, drive him into a corner, and bid him tell you what that instinct enables you to know of matter, and he will answer, 'In sensation there is suggested to us a cause of that sensation in the quality of a body capable of producing it.' This is Locke's view.

The great point in Reid's theory is, that with our sensations are joined perceptions. 'The senses have a double province,' he says; 'they furnish us with a variety of sensations, some pleasant, others painful, and others indifferent; at the same time they give us a conception, and an invincible belief of the existence of external objects. This conception and belief, which Nature produces by means of the senses, we call *perception*.'* This, upon which so much stress is laid that philosophers are said to have been always in error because they overlooked it, we regard as a remarkable instance of Reid's want of subtlety. Neither Berkeley nor Hume denied the fact of our belief in the externality of the causes of sensations: Berkeley denied that these causes had an occult substratum; Hume denied that any reason could be given for our belief in their externality. What force then has 'perception'? It is nothing more than that 'belief,' according to Reid: though to call perception a belief is, to say the least, somewhat unusual. But grant all he wishes, and you grant that with our sensations there is an accompanying belief in the existence of an external cause of those sensations. Berkeley would answer, 'Very true: but that cause is not unthinking matter.' Hume would answer, 'Very true: but we can give no reason for our belief: we can know nothing of the cause.' Reid can only retort, 'Perception *is* belief:' a retort which has been deemed satisfactory by his school; which really is only an abuse of language; and which moreover has the further disadvantage of being available only as an argument against Hume; for against Berkeley it is powerless. If perception is belief, and we perceive an external world, Hume may be answered when he says we have no grounds for our belief. But Berkeley is not answered. He says that we *do* believe in an external world; but that world is not a world of unthinking matter—it is a world of divine agency. Reid would not pretend that in sensation or perception we can distinguish the nature of the causes which affect us; he constantly tells us that we cannot know *what* those causes are, but only *that* there are causes. As long as the noumenal world is removed from our inspection, so long must Berkeley remain unrefuted by any theory of perception.

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* *Inquiry*, ch. v. § 2.

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* *Essays on Intellectual Powers*, ii. ch. xvii.

Reid says, that if we grant Berkeley's premiss—viz. 'we can have no conception of any material thing which is not like some sensation in our minds'—then are the conclusions of Idealism and Scepticism unanswerable. This premiss therefore he disputes. Now attend to his challenge:—'This I would therefore humbly propose, as an *experimentum crucis*, by which the ideal system must stand or fall; and it brings the matter to a short issue: Extension, figure, and motion may, any one or all of them, be taken for the subject of this experiment. Either they are ideas of sensation, or they are not. If any one of them can be shown to be an idea of sensation, or to have the least resemblance to any sensation, I lay my hand upon my mouth and give up all pretence to reconcile reason to common sense in this matter, and must suffer the ideal scepticism to triumph.'* It was not till after repeated perusals that we caught the significance of this passage; and are not quite positive that we have understood it now. To admit it to have any force at all, we must understand 'ideas of sensation' as '*images* of sensation.' Certainly, extension is no copy of any one sensation. But if Reid means to say that the idea of extension is not the result of complex sensations which a body excites in us—if he means to say that the idea of extension is not an abstract idea by which we express a certain property of bodies, a property known to us only through sensation—then must we cease all dispute, and leave him in possession of his discovery.

Reid's theory of perception may be thus stated:—External objects occasion certain sensations in us; with these sensations we perceive the existence of certain qualities capable of producing them: these he distinguishes into primary and secondary. The primary, he says, we perceive *immediately*; the second, *mediately*.

And this is the theory by which, with the aid of an 'original instinct,' he is supposed to have refuted Idealism. Any one may see that Berkeley might readily have relinquished his ideal hypothesis, and accepted Ried's, with perfect security for Idealism. The 'unknown causes,' which Reid calls 'qualities,' Berkeley calls 'divine laws.' The difference is merely nominal.

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* *Inquiry*, ch. v. § 7.

Thus much with respect to Idealism. With respect to Hume, the theory is almost as harmless. Hume would say, 'All that is given in sensation is sensation; your "perception" (which you call belief) of qualities amounts to nothing more than a *supposition*—a necessary one, I admit; but I have always said that our belief in external causes of sensation was an *irresistible prejudice*; and my argument is, that we have nothing but the prejudice as a proof—reason, we have none.'

Finally, with respect to Locke, it will in the first place be seen that Reid's solution is neither more nor less than that given by Locke; in the second place, the boasted refutation of the ideal hypothesis is always supposed by Reid's school to be a refutation of Locke's view of the origin of knowledge; and this is a very great mistake. Because Berkeley and Hume pushed Locke's system to conclusions from which he wisely shrank, it has been generally supposed that his account of the origin of our knowledge is indissolubly bound up with the ideal hypothesis, by it to stand or fall. This probably is the meaning of the vulgar error that Locke's view of knowledge leads to atheism. It led to Hume.

In disproof of Reid's supposition we answer, firstly, Idealism is not indissolubly bound up with the ideal hypothesis, although Berkeley may have adopted that hypothesis; secondly, Locke's system is altogether independent of the hypothesis, and in his Review of the doctrines of Malebranche he very distinctly and emphatically denies it. The force of this observation will better be appreciated when it is remembered that although Locke's language is notoriously unguarded and wavering, all his reasonings are founded on the use of the word 'ideas' as synonymous with 'notions' or 'thoughts.'*

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* Since the first edition of this work, Sir W. HAMILTON has published an edition of REID, illustrated and enriched by notes and dissertations of remarkable erudi-

Let us now pass to the psychological investigations of Reid and his followers. The favourite phrases with which Stewart so complacently describes them as 'inductive metaphysics' and 'experimental philosophy of the mind,' are the homage paid to the Objective Method by one who was too cultivated not to be aware of the triumphs of that Method; but we must not misinterpret the homage. There is very little Induction, and not a glimpse of Experiment, in all the writings of this school. There is much excellent analysis and sagacious remark. There is a liberal and philosophic spirit animating the pages: and in the lectures of Thomas Brown and the *Analysis* of James Mill, we find many valuable contributions to the science of Psychology. But, in my opinion, not one of them had a conception of the true province of Psychology, nor of the Methods by which such a science could be established. Brown came nearest to such a conception. Not one of them saw that the disputes which had so fruitlessly been carried on could only be settled by the substitution of a new Method of inquiry, which in all other sciences had alone been found fruitful. Not one of them saw the necessity of thoroughly understanding the organism if they would understand the functions.

Thus Reid devotes a chapter to expounding his views of the proper means of knowing the operations of the mind.* 'The chief and proper source of this branch of knowledge is accurate reflection upon the operations of our own minds.' For this it is necessary to attend to the structure of language and the course of human actions and conduct. 'The actions of men are effects; their sentiments, their passions, and their affections are the causes of those effects; and we may in many cases form a judgment of the cause from the effect.' After such a statement of the Method we need not marvel at

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tion and acuteness. Respecting the interpretation Sir WILLIAM gives to REID's doctrines, I will only say that he has shown what a subtle mind can *read into* the philosophy of common sense; but he has not in the least produced the conviction in me of REID's having meant what the illustrious successor supposed him to have meant.

* *Essays*, i ch. v.

the futile results. He begins his account of the Senses with an admission which rightly interpreted should have forced him to adopt the physiological means of investigation. He lays it down as a first truth that we can perceive no external object except through the bodily organs. For this 'we can give no reason but that such is the Will of our Maker. No man can show it to be impossible to the Supreme Being to have given us the power of perceiving external objects without such organs.' Consequently we are not to suppose these organs in their own nature necessary to perception, but only that it is the will of God that our perception is limited by our organs. On this passage Hamilton has the following absurd note: 'However astonishing, it is now proved beyond all rational doubt, that, in certain abnormal states of the nervous organism, perceptions are possible through other than the ordinary channels of the senses.' Psychology, in such hands, was in a pitiable condition. Here Hamilton obviously refers either to clairvoyance, or hallucination. These are the only abnormal states in which the ordinary channels can be considered as set aside. If he refers to clairvoyance, what are we to think of his science? If to hallucination, what are we to think of his Psychology? because, granting that the images of an excited brain are justifiably styled perceptions, is it not clear that these images are reproductions of those originally stimulated by the 'ordinary channels of sense'? The note can have no meaning unless to imply that the mind has other channels than the organs of sense; and in this meaning it is preposterous.

Although Reid insists upon the material conditions of mental phenomena, he also insists on our not considering those conditions as the causes. Some philosophers, he admits, imagine that man is 'so curiously organised that the impressions of external objects produce in him sensation, perception, remembrance, and all other operations we are conscious of. *This foolish opinion* could only take its rise from observing the constant connection which the Author of Nature hath established between certain impressions made upon our senses and our perceptions of the objects by which the impression is made; *from which they weakly inferred* that those impressions were the proper and efficient causes of the corresponding perception.'* In other sciences an inference from *constant* connection is accepted as valid; but in Psychology it appears we are to reject it, and accept instead the valuable information that 'we perceive, because God has given us the power of perceiving, and not because we have impressions from objects'!

It is unnecessary to pursue the criticism of a system which has long since ceased to have any adherents. The Psychology of the Scotch School, though containing, as I intimated before, much available matter for students, is entirely defunct as a doctrine. It failed, as it deserved to fail. It had neither a clear aim nor a right Method. It added verbal analysis to verbal analysis, and metaphysical explanation to metaphysical explanation; meanwhile physiologists and a few psychologists were 'taking the clock to pieces'—as we shall see hereafter.

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* *Essays*, ii. ch. iv.

# EIGHTH EPOCH.

*Psychology finally recognised as a branch of Biology. The phrenological hypothesis.*

## CHAPTER I.

## GALL.

### § I. LIFE OF GALL.

FRANCIS JOSEPH GALL, was born at Tiefenbrunn, in Suabia, on the 9th of March, 1757. In the preface to his great work, *Anatomie et Physiologie du Système Nerveux*, 1810, he narrates how as a boy he was struck with the differences of character and talents displayed by members of the same family, and how he observed certain external peculiarities of the head to correspond with these differences. Finding no clue given in the works of metaphysicians, he resumed his observations of nature. The physician of a lunatic asylum at Vienna allowed him frequent occasions of noticing the coincidence of peculiar monomanias with peculiar configurations of the skull. The prisons and courts of justice furnished him with abundant material. Whenever he heard of a man remarkable either for good or evil, he made his head a study. He extended his observation to animals; and finally sought confirmation in anatomy. The exterior of the skull he found, as a general rule, to correspond with the form of the brain.

After twenty years of observation, dissection, theorising, and arguing, he delivered his first course of lectures in

Vienna. This was in 1796. The novelty of his views excited a great sensation; one party fanatically opposing them, another almost as fanatically espousing them. Ridicule was not sparing. The new system lent itself to ridicule, and angry opponents were anxious, as opponents usually are, to show that what made them angry was utterly farcical. In 1800 Gall gained his best disciple, Spurzheim. Hitherto Gall had been aided only by a young anatomist, named Niklas, to whom he taught the new method of dissecting the brain;* Spurzheim's mastery of anatomical manipulation, combined with his power of generalisation and of popular exposition, came as welcome aids in the gigantic task of establishing the new doctrine on a scientific basis.

In 1802 M. Charles Villers, the translator of Kant, published his *Lettre à Georges Cuvier sur une Nouvelle Théorie du Cerveau par le Docteur Gall.* I have not been able to procure this Letter, but it is in many points interesting to the historian of Phrenology, because it expounds the doctrine as it was *then* conceived, and describes the localisation of the organs then fixed on by Gall. A plate represents the skull, marked by Gall himself, with the four-and-twenty organs, which at that period comprised the 'original faculties' of the mind. Among these twenty-four, there are four subsequently discarded altogether: Vital Force—Susceptibility—Penetration (independent of that which characterises the metaphysical faculty)—and Generosity (independent of benevolence). Not only are these four astonishing organs marked by Gall as representing original faculties, but the twenty organs which were afterwards retained by him are *differently* localised; so that, according to M. Lélut, from whom I borrow these details, 'of those twenty organs there is scarcely one which occupies the place Gall finally assigned to it.'†

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* Gall pays his tribute to Niklas in the first edition of the *Anat. et Phys. du Système Nerveux*, i. preface xv. In the second edition this tribute is omitted; not very creditably.

† Lélut. *Rejet de l'Organologie Phrénologique*, 1843, p. 29.

Phrenologists should give prominence to this fact. They are bound not to pass it over. In every way it is important in the history of the doctrine. It may perhaps be satisfactorily explained; but until it is explained, it must tell against them; and for the very reason which they incessantly advance as their claim to consideration, namely that the several organs were established by *observation*, not by theory.[*] For, if the doctrine had been established by a mingling of hypothesis and observation, nothing would be more likely than that the first sketch of it would be immature in conception and uncertain in details; whereas, if the doctrine grew up slowly from a gradual accumulation of rigorously verified facts, these facts would remain constant through all the tentative changes of doctrine. Gall had been twenty years collecting facts of correspondence between external configuration and peculiarities of character. He had controlled these observations by repeated verifications. Prisons, lunatic asylums, busts, portraits, remarkable men, even animals, had furnished him with facts. Unless these facts really deserve all the credit which is demanded for them, Phrenology has the ground cut from under it; and if we are to give them our confidence, upon what ground can we relinquish it in favour of subsequent facts, which deny all that has been said before? If Gall could be deceived after twenty years of observation of facts which, according to his statement, are very easily observed, because very obvious in their characters, why may he not have been equally deceived in subsequent observations? If one collection of facts forced him to assign the organ of poetry to a particular spot (on the skull marked by him for M. Villers), how came another collection of facts to displace poetry, and substitute benevolence on that spot? Are the manifestations of poetry and benevolence so closely allied as to mislead the observer?

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[*] 'On voit par la marche de ces recherches que le premier pas fut fait par la découverte de quelques organes, que ce n'est que graduellement que nous avons fait parler les faits pour en déduire les principes généraux, et que c'est subséquemment et à la fin que nous avons appris à connaître la structure du cerveau.'—GALL: *Anat et Phys.* i. preface xviii.

Spurzheim's assistance came at the right moment to rectify many of the hazardous psychological statements, and to marshal the facts in better order. Together Gall and he made a tour through Germany and Switzerland, diffusing the knowledge of their doctrine, and everywhere collecting fresh facts. On the 30th October, 1806, they entered Paris. In 1808 they presented to the Institute their Mémoire on the *Anatomy and Physiology of the Nervous System in general, and of the Brain in particular*; and in 1810 appeared the first volume of their great work, under the same title; which work was remodelled by Gall in 1823, and published in six volumes, octavo, under the title of *Fonctions du Cerveau.*

In 1813 Gall and Spurzheim quarrelled and separated. Spurzheim came to England, Gall remained in Paris, where he died on the 22nd of August, 1828. At the post-mortem examination, his skull was found to be of at least twice the usual thickness, a fact which has been the source of abundant witticisms—for the most part feeble. A small tumour was also found in his cerebellum: 'a fact of some interest, from that being the portion of the brain in which he had placed the organ of amativeness, a propensity which had always been very strongly marked in him.'* I know not in what sense the writer just quoted thinks the fact so remarkable. Tumours in other organs are not usually the indications of increased activity; nor are we accustomed to find great poets with tumours in the organ of 'imagination;' great artists with tumours in the perceptive region; great philanthropists with tumours on the frontal arch; great rebels with tumours behind their ears. †

## § II. Gall's Contributions to Science.

The day for ridiculing Gall has gone by. Every impartial and instructed thinker, whether accepting or rejecting

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* *The English Cyclopædia*, vol. iii. *Art.* Gall.

† To anticipate the reply that the existence of disease in the organ would provoke unusual activity of the organ, it is only necessary to state that Gall's 'propensity' is not said to have been called into unusual activity shortly before

Phrenology, is aware of the immense services rendered to Physiology and Psychology, both by Gall's valuable discoveries, and by his bold, though questionable, hypotheses. He revolutionised these studies by his method of dissecting the brain, and by his assignment of definite functions to definite organs. To verify or refute his hypotheses, vast researches were undertaken; the nervous system of animals was explored with new and passionate zeal; and now there is no physiologist who openly denies that mental phenomena are directly connected with nervous structure; while even metaphysicians are beginning to study the mechanism of the Senses, and the general laws of nervous action. The time has arrived in which it seems almost as absurd to theorise on mental phenomena in defiance of physiological laws, as it would be to adopt Stahl's advice, and consider anatomical and chemical researches futile in the study of Medicine. We owe this mainly to the influence of Gall. He first brought into requisite prominence the principle of the necessary relation, in mental as in vital phenomena, between organ and function. Others had proclaimed the principle incidentally; he made it paramount by constant illustration, by showing it in detail, by teaching that every variation in the organ must necessarily bring about a corresponding variation in the function. He did not say mind was the *product* of organisation: 'nous ne confondons pas les conditions avec les causes efficientes;' all he asserted was the correspondence between the state of the organ and its manifestations.[*] This was at once to call the attention of Europe to the marvellous apparatus of organs, which had previously been so little studied, except from a purely anatomical point

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his death, but to have always been very active. Had there been a causal connection between the disease and the activity, increase of the activity would have followed the rapid progress of the disease.

[*] So also SPURZHEIM says: 'Both Dr. Gall and I have always declared that we merely observe the affective and intellectual manifestations, and the organic conditions under which they take place; and that in using the word *organs* we only mean the organic parts by means of which the faculties of the mind become apparent, but *not* that these constitute the mind.'—*Phrenology*, p. 16.

of view, that no one, until Sömmerring (who was Gall's contemporary), had observed the relation between size of the brain and intellectual power, as a tolerably constant fact in the animal kingdom. This one detail is sufficient to make every reader suspect the chaotic condition of physiological Psychology when Gall appeared.

Nor has Gall's influence been less remarkable in the purely psychological direction. People in general are little aware how that influence is diffused, even through the writings of the opponents of Phrenology, and has percolated down to the most ordinary intelligences. Gall may be said to have definitively settled the dispute between the partisans of Innate Ideas and the partisans of Sensationalism, by establishing the connate tendencies, both affective and intellectual, which belong to the organic structure of man. Two psychological facts, familiar from all time to the ordinary understanding, but shrouded from all time in the perplexities of philosophy, he made the basis of his doctrine. The first of these facts is, that all the fundamental tendencies are connate, and can no more be created by precept and education than they can be abolished by denunciation and punishment. The second fact is, that man's various faculties are essentially distinct and independent, although intimately connected with each other; whence he concluded that the Mind consists of a plurality of functions. A plurality of organs, became the necessary corollary of this proposition, as soon as the relation between organ and function was steadily conceived.

These two propositions have entered into the body of most psychological doctrines, although the corollary from the second is still vehemently disputed by many. No man of any intellectual eminence would now repeat Johnson's celebrated assertion of the poetic faculty being simply intellectual activity in a special direction, whereby Newton might have written *Othello*, and Shakspeare the *Principia*, had either of these great men set themselves the task. 'Sir, a man can walk as far east as he can walk west,' was thought a conclusive illustration; which indeed it was, when the 'unity' of the faculties found no contradiction; no one would now accept it as more than a fallacious analogy.

Another conception systematised by Gall has also passed into general acceptance, namely, the preeminence of the affective faculties over the intellectual; also the subdivision of the affective faculties into propensities and sentiments, and of the intellectual faculties into perceptive and reflective: thus marking the progress in development from the individual to the social, from the sensuous to the intellectual, which constitutes the great progress of civilisation, in the triumph of sociality over animality.

Not only has Gall the immense merit of having decisively settled wavering conceptions respecting the Brain, and defined it as the instrument of the intellectual and moral faculties; but he has also the merit of having thoroughly grasped the significance of the Comparative Method. Conceiving the Brain as an apparatus of organs, and the mental faculties as functions of those organs, he applied this conception to the whole animal kingdom, and derived from observation of animals confirmations of his observation of man.

It may seem to the reader familiar with the current doctrines of physiologists, and unfamiliar with the history of Physiology, that this step was easy to take. Such a conclusion would be most unjust. So far from easy was the step, that illustrious anatomists before Gall had been unable to take it; and illustrious metaphysicians since Gall have been unable to follow it. Although, from the days of Hippocrates downwards, the Brain had been more or less clearly recognised, as the seat of the intellectual faculties, there was considerable hesitation as to the seat of the passions and propensities. Even Cabanis and Bichât assigned these to the viscera. Moreover those who held that the Brain was the seat of the intellect, either held that it was merely a local habitation, not a definite organ of which intellect was the function; or else they held that it was only one organ, and had very vague ideas of its functions;

they had no conception of the Brain as an apparatus of organs, no conception of each faculty having its distinct organ.

Thus the essential conception of Gall was novel; and the idea that was not novel, was opportune. Even Flourens, the uncompromising antagonist of Phrenology, admits that Gall decided a wavering opinion: 'La proposition que le cerveau est le siége exclusif de l'âme n'est donc pas neuve, n'est donc pas de Gall; elle était dans la science avant qu'eût paru sa doctrine. Le mérite de Gall, et ceci même n'est pas un médiocre mérite, est d'en avoir mieux compris qu'aucun de ceux qui l'avaient précédé toute l'importance, et de s'être dévoué à la démontrer. Elle était dans la science avant Gall; on peut dire que depuis Gall elle y règne.'[*] Those therefore who reject the hypothesis which is peculiar to Gall, namely the assignment of each faculty to a distinct central organ (an hypothesis only vaguely conceived by Prochaska)[†] must admit the importance of his arguments establishing the organic dependence of mind and the brain. That this was needed may be further seen in the reluctance which may still be observed on the part of metaphysicians to acknowledge it. Thus Sir W. Hamilton boldly asserts that '*no assistance* is afforded to Mental Philosophy by the examination of the Nervous System, and that the doctrine or doctrines, which found *upon the supposed parallelism of brain and mind*, are, as far as observation extends, *wholly* groundless.'[‡] When such a man, not unacquainted with Physiology, could teach his pupils this independence of mental phenomena, we need not wonder that Jeffrey, who was wholly ignorant of science, could, in his attack on Phrenology in the 'Edinburgh Review,' take up a similar position: 'The truth, we do not scruple to say it, is, that there is not the smallest reason for supposing that the mind ever operates through the agency of any material organs except in the perception of material objects, or in the spontaneous movements of the body which it inhabits; and that this whole science rests upon a postulate or assumption for which there is neither any show of evidence, nor any show of reasoning.'[*] It is almost cruel to cite two such passages from two such writers; but the citations show what need there was of Gall's labours.

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[*] Flourens: *De la Phrénologie*, 1863, p. 20.

[†] Prochaska has a brief section, entitled, 'Do each of the divisions of the intellect occupy a separate portion of the brain?' This is merely a question raised without any attempt to answer it. The conclusion will show how vague were Prochaska's views: 'It is by no means improbable that each division of the intellect has its allotted organ in the brain, so that there is one for the perceptions, another for the understanding, probably also others for the will and imagination and memory.' *Dissertation on the Nervous System*, translated by Laycock for the *Ray Society*, p. 447.

[‡] Hamilton, *Lectures on Metaphysics*, I. p. 264. At p. 404 he so far qualifies this absurd remark as to admit that 'the mind in its lower energies and affections is

A slight acquaintance with the history of Anatomy also shows what a need there was for the new method of dissecting the brain originated by Gall. One sentence from his antagonist Flourens will suffice here. 'Je n'oublierai jamais l'impression que j'éprouvai la première fois que je vis Gall disséquer un cerveau. Il me semblait que je n'avais pas encore vu cet organe.'[†] This is not the place to expound or criticise Gall's anatomy. I only wish to call attention to his great services in having originated a new method of investigation. His own results, here and elsewhere, must be accepted as preliminary indications only, not as discoveries.

The same remark applies to the fertile suggestions by which he endeavoured to connect Psychology with Biology. He had, it must be confessed, but very imperfect ideas on both these subjects; nevertheless he had a comprehensive and eminently scientific point of view. So long as he keeps at the height of this point of view and takes a panoramic

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immediately dependent on the condition of the nervous system, and that in general the development of the brain in the different species of animals [not then of men?] is correspondent to their intelligence.'

[*] Quoted by George Combe: *Phrenology Applied to Painting and Sculpture*, 1855, p. xiii.

[†] Flourens: *op. cit.* p. 180.

survey of the field, he is admirable. When he descends to details he stumbles.

He clearly saw and clearly expressed the truth that the greatest obstacle in the way of psychological research was the vicious practice of isolating human nature from the animal series, and of endeavouring to release it from the laws which govern animal life. We may, he says (but this is a mistake), without inconvenience neglect the relations of man to the inorganic world; but it is impossible to avoid endless confusion, unless we distinguish the functions man has in common with plants, and the functions he has in common with animals: the latter being obviously the functions of the nervous system.* Finding that animals have a nervous system which in all essentials is identical with that of man, and finding also that animals have instincts, propensities, and intelligence similar, if not the same as those of man, he justly asks whether, in examining the nature and origin of human faculties, we ought not to take those of animals into account? 'L'homme, tant qu'il est animal, serait-il un être isolé du reste de la nature vivante? serait-il gouverné par des lois organiques opposées à celles qui président aux qualités et aux facultés du cheval, du chien, du singe?'† The conception here ridiculed was firmly held by metaphysicians, who amused themselves with writing long treatises on the mind as an isolated entity, detached from all physical laws, 'exerçant ses fonctions par elle-même, se servant du corps tout au plus comme d'un moyen de communication entre elle et le monde.'

His argumentation is victorious along the whole line. If, he says, our moral and intellectual faculties are independent of organic conditions, it is needless to trouble ourselves about the brain and nervous system. Man is excluded from the field of observation, except as a physical being. 'If, on the other hand, I can demonstrate an essential relation between the exercise of his moral and intellectual forces and his organisation, it will follow that the search after the organic conditions is the most important object that can occupy the physiologist; and if I can demonstrate that these organic conditions are the brain and its parts, we shall see the possibility of a doctrine of the cerebral functions, a doctrine which discloses the organs employed in the manifestation of all our propensities, all our sentiments, and all our faculties.' [*]

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* GALL: *Fonctions du Cerveau*, i. 22 *sq*.

† *Ibid.* p. 48.

The task is delicate, and difficult. Besides its intrinsic difficulty, there is the obscuration of metaphysical prejudices. 'A tout moment, les métaphysiciens viennent ralentir les progrès des naturalistes: en général c'est aux métaphysiciens qu'il faut attribuer l'ignorance où l'on est encore sur la véritable nature de l'homme.' [†] These doctors were employed seeking 'the seat of the soul,' which was now supposed to be in one point, now in another. 'Au lieu de rechercher simplement des phénomènes, on se bornait, comme c'est encore l'usage, à des subtilités philosophiques; on s'épuisait en spéculations sur la nature intime de l'âme.' The union of the soul with the body, and the possibility of an intermediate action; the question whether sensations and ideas are the results of impressions on the brain, and whether they left traces, copies, of themselves there; such were the favourite topics of debate. They were all set aside when the study of the cerebral functions began.

Gall not only studied the brain in man, but studied its evolution in the animal series, and with it the evolution of instincts, propensities, faculties. He knew that the dreaded reproach of Materialism would be thrown on such a method; but as he rejected Materialism, he was not to be alarmed by a clamour of misrepresentation. 'Quand je dis que l'exercice de nos facultés dépend des conditions matérielles, je n'entends pas que nos facultés soient un *produit* de l'organisation; ce serait confondre les conditions avec les causes efficientes.' [‡] In a separate section devoted to this accusation of Material-

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Gall: *Fonctions du Cerveau*, p. 189. [†] *Op. cit.* ii. 4. [‡] *Op. cit.* i. 189.

ism, he says, 'I have always declared that I leave unsought the nature of the soul as of the body, and that I never attempt to explain the essence of either of their faculties. *I confine myself to phenomena.*'* The phenomena presented to observation, both in animals and man, he tried to connect with their material conditions; and the attempt was eminently philosophical, though, as we shall see, its results were not very successful.

## § III. Gall's Method.

In the foregoing enumeration of his contributions to a real Psychology, the chief elements of Gall's Method have been indicated. What we have to do here is to bring these elements together, and mark with more precision the value to be attached to his conception of them. The point of view is important. In his vision of Psychology, as a branch of Biology, subject therefore to all biological laws, and to be pursued on biological methods, he may be said to have given the science its basis.

What were the means of investigation which Biology opened to him? They were zoological observations interpreted by anatomical, physiological, and pathological indications. The phenomena presented by animals and men were compared and classified; each elementary faculty was assigned to some distinct organ, indicated as the organ of the faculty by its constant presence in the presence of the phenomena, by its absence in the absence of the phenomena, and by its lesion in irregularities of the phenomena.

There was another and important instrument of research, which Gall disregarded, namely, subjective analysis, an instrument so necessary that some psychologists, otherwise quite alive to the importance of biological investigation, maintain that Psychology should be erected into a separate science, mainly directed by this analysis. I shall presently have to point out the consequences of Gall's disregard of this instrument. It is the only serious defect in his general conception of Method.

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* Gall: *Fonctions du Cerveau*, p. 228 *sq.* The whole section is worth consulting.

The most superficial glance at this Method discovers its novelty, its importance, and its immense sweep. Its novelty consisted in its precision. What before had been vaguely seen to be useful means of investigation, and had been applied with more or less success, he saw to be indispensable, and to need systematic co-ordination. The relations of the physical and moral, the influence of the body on the mind, and of the mind on the body, had been vaguely recognised; and by Cabanis an attempt had been made to systematise them. The general relations also of the Nervous System and the Mental Functions had been recognised. But no one had attempted a precise demonstration. No one had attempted to unveil the mysterious mechanism of physical and moral phenomena. In the experience of physicians various striking facts were recorded, showing how the influence of an idea determined a physical result analogous to that determined by a physical agent. The belief of having taken a purgative was known to act on susceptible patients, although the pill actually administered was made of bread; the terror at having taken an emetic by mistake, was known to produce violent vomitings, when no emetic stronger than pure water had been really taken; the pain of an exposed nerve in a carious tooth was known to disappear directly the patient entered the dentist's room. Such cases, and they are numberless, were quietly disposed of by attributing them to Imagination. They might as well have been attributed to the Differential Calculus.

Note how easily a phrase is made to do duty for a definite conception. Through what structural conditions Imagination was to act upon the bowels or on the teeth, that is to say, what parts of the physical organism were set in action by the image, no one thought of asking. Imagination was autocratic, freed from all conditions. Those naïve metaphysiologists who conceived Imagination as a perfectly free agent unencumbered by material conditions, and capable of acting anywhere because it was an inhabitant of Nowhere (being spiritual it could not have a locality), felt no need of the discovery of a particular mechanism for the production of results. But physiologists who sought a scientific explanation, and who believed that each action of the nervous system took place under definite conditions, and through a definite mechanism, were called upon not to rest contented with a meaningless phrase, but to show what was the pathway of Imagination acting on the teeth to drive away the pain, and on the bowels to change bread-pills into purgatives, innocent drinks into emetics.

It is true that Gall made no attempt to disclose this mechanism of the moral and physical, nor was his physiological knowledge precise enough to warrant the attempt. But he did try to substitute definite ideas of the mental mechanism in lieu of the vague generalities current among philosophers; he was not content with assigning mental faculties to the nervous system, he tried to show what part of the nervous system was involved in each of the distinct faculties. The attempt proved a failure; but it was one of those germinal conceptions which enrich Science. The hypothesis did not withstand Verification; but it was an illuminating hypothesis, because while colligating known facts and instigating research, it was one to which the process of verification could be applied. Comte compares the hypothesis of Gall with the hypothesis of Descartes. Although the 'vortices' were rejected by science, they served a preliminary purpose of great utility. 'En effet, par les tourbillons, Descartes arrachait la constitution du monde aux agents surnaturels, à la métaphysique, aux entités; posant le véritable problème, il le resolvait hypothétiquement;' * in like manner Gall rescued the problem of mental functions from Metaphysics, and made it one of Biology. Still more illustrative is the comparison Comte makes between Gall and Broussais. At a

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* LITTRÉ: *Auguste Comte et la Philos. Positive*, 1863, p. 542.

time when fevers were considered as essential maladies, morbid entities whose course had nothing to do with the conditions of the living body, Broussais, by an intuition of genius, saw that Pathology must be a particular case of Physiology, that diseases were *abnormal* conditions of the *normal* functions. He therefore propounded the hypothesis that all fevers were nothing but various forms of inflammation of the intestinal canal. The hypothesis proved false; experience has rejected it; but the principle was true, and science has consecrated it.

The hypothesis of Gall had a true basis in the propositions: 1, that the mental faculties are activities of the cerebral organs; 2, that Psychology is a branch of Biology; and 3, that any attempt to separate the mental from the physical organisation, as two independent factors, must lead to error. It had been the practice to separate mental from vital phenomena, and study them apart. Gall obeyed the Canon of Restitution (*Prolegomena*, § 54), which prescribes the necessity of completing psychological analysis by physiological analysis. The hypothesis he erected on this basis was that the moral and intellectual faculties are twenty-seven in number, each of which has for its organ a distinct portion of the convolutions of the cerebrum and cerebellum: this aspect of the hypothesis is Phrenology. Inasmuch as the external configuration of the skull is moulded on the configuration of the Brain, the organs are definitely indicated both as to position and size, by the topography of the skull: this is Cranioscopy.

Since we are here considering only the Method, it would disturb the exposition if we paused to estimate the truth of an hypothesis which will challenge attention hereafter. Let me only indicate the immense difficulty and sweep of the investigations which the hypothesis demanded. That will disclose how precipitate and unwise Gall's followers have been in not at once recognising the essentially tentative nature of an hypothesis which they have blindly accepted as a final theory. It was natural that Gall himself should have had no doubts, and should have believed that he was in possession of all the knowledge essential to his scheme. But his successors have displayed even greater confidence; which only proves how ill-instructed they have been in Biology, and how little penetrated with the true spirit of scientific scepticism.

Phrenology may be regarded as a Physiology of the Brain; or as an Art of Reading Character by means of the skull, i.e. Cranioscopy. Gall, I am aware, conceived that his doctrine was both; and, indeed, *if* his Physiology be true, the indications of his Cranioscopy must likewise be accepted; although it is quite conceivable that his Phrenology may be a mass of errors, and yet his Cranioscopy have empirical truth. I do not say that Cranioscopy is true; neither do I say that Physiognomy or Cheironomy is true; but we may suppose observation of the coincidence between external form and mental disposition to reach a certain empirical accuracy sufficient for the establishment of an Art, quite independent of the truth or error of the cerebral Physiology which accompanies it. Thus also Lavater's Physiognomy might have been true, although his Physiology was absurd.

Phrenology may thus be detached from Cranioscopy, and be estimated apart, each having their separate grounds of evidence, though they are mutually illuminating. On Cranioscopy nothing need be said at present, except that Gall's method of research was distinguished by its comprehensiveness and sagacity. Both in the choice of facts, and in the comparative sweep of his collection, he showed the skill and patience of an investigator. I do not say that he was not biassed by his hypothesis. I do not pretend that his facts were always accurately interpreted, or that contradictory evidence was impartially weighed. Gall was human. But making every deduction, we must still admit that so vast an array of facts, zoological, pathological, and psychological, had never before been collected by any one inquirer into this abstruse subject. And, moreover, they were statements for the most part admitting of verification.

With Phrenology the case is otherwise. It claims to be a

Physiology of the Brain; and the very Method, which it is the glory of Gall to have introduced, insists on so vast and comprehensive an investigation of biological facts and laws, that every hypothesis must be regarded simply as an hypothesis, a tentative effort to range the facts in some available order, until the laws of nervous action have been positively ascertained, and the function of each organ placed beyond dispute. Gall conceived a luminous hypothesis. This had to be verified. The new physiology of the brain had to be tested by Anatomy, Physiology, Pathology, Zoology. What was the result? Those who have read these pages aright will see that I throw no discredit on Gall's genius in affirming that his physiology of the brain is altogether irreconcilable with the discoveries of modern science, and that, as far as we can be said to know anything of the nervous system, his positions are one and all erroneous. Of this more anon.

Gall was precipitate. He was forced to be so. His hypothesis could not await the tardy disclosures of science; it was a powerful stimulant to science, and meanwhile it colligated the facts then known. Gall was the Kepler of Psychology. His followers proclaim him a Newton. It is probably in consequence of this confidence in their master that while, on the one hand, we find every phrenologist since Gall, Spurzheim, and Vimont, occupied entirely with Cranioscopy, and many even speaking with disdain of anatomists and physiologists; on the other hand, we find them anxious to bring forward physiological and pathological evidence, whenever that evidence favours their views; and we hear them confidently assert that Phrenology is the only true Physiology of the nervous system. This latter assertion I am quite willing to echo, if the terms be somewhat modified, and the phrase run thus:—'Phrenology aspires to be the true Physiology of the nervous system; when that Physiology is complete, Phrenology will be complete.' But for the present we find Physiology confessing its incompleteness—confessing itself in its infancy; whereas Phrenology claims to be complete, equipped, full-statured. Rightly considered, that very claim is a condemnation of Phrenology, as at present understood. The pretension of being a perfect or nearly perfect system, surely implies a profound ignorance of the subject, an entire misconception of the complexity of the problem it pretends to have solved? At a time when Science is unable to solve the problem of three gravitating bodies, phrenologists pretend to find no difficulty in calculating the result of forces so complex as those which constitute character; at a time when the nervous system is confessed, by all who have studied it, to be extremely ill-understood, the functions of that system are supposed to be established; at a time when Physiology is so rapidly advancing that every decade renders most books antiquated, a Psychology professedly founded on that advancing science remains immovable!

Gall was on the right path when he entitled his first great work *Anatomy and Physiology of the Nervous System*.[*] His successors have quitted that path. In spite of his emphatic declarations, when he was engaged in his exposition of the anatomy and physiology of the nervous system,[†] declarations of the necessity to make the study of organ and function go hand in hand, so that he would only have his labours regarded 'as the basis of an essay towards a more perfect work;' in spite, we say, of every philosophical consideration, his successors have neglected Physiology for Cranioscopy; not one of them has made or attempted to make any discovery or extension of discovery in the direction Gall so successfully opened; and the result of this neglect has been twofold,—first, that since Gall and Spurheim, Phrenology has not taken a single step; secondly, that all the eminent physiologists of Europe who have devoted themselves to the study of the nervous system, unanimously reject a theory which does not keep pace with the advance of science. It is very easy for phrenologists to disregard the unanimous opposition of physiologists, and to place this opposition to the account of prejudice, or the 'not having sufficiently studied Phrenology;' but an impartial on-looker sees clearly enough that, making every allowance for prejudice, the opposition rests mainly on the discrepancy between the facts stated by phrenologists and the facts which Science has hitherto registered. Had phrenologists kept themselves acquainted with what was gradually being discovered by physiologists, they would have seen that something more than prejudice must be at work when all the eminent neurologists, such as Serres, Flourens, Majendie, Leuret, Longet, Lélut, Lafargue, Baillarger, Müller, Valentin, Gratiolet, Vulpian, Wagner, and Schiff, declare against Phrenology; although every one of these is ready to admit the importance of Gall's method of dissection, ready to incorporate whatever results Gall arrived at, which can be in any way confirmed. Authorities are not reasons; but the unanimity on this point has a reason. I am indisposed to estimate a doctrine by the array of names on its side; but I cannot overlook the fact that here physiologists belonging to very opposite schools of thought all agree in rejecting the facts, no less than the doctrines, advanced by Gall; and this unanimity is the more striking because there is scarcely a single man of eminence on the other side. I do not blame phrenologists for having rendered no assistance to Physiology by their own labours; but I am forced to point out the consequences of their having neglected to follow the path commenced by Gall, and having deviated into that of simple Cranioscopy. The neglect of which they complain, is entirely owing to their presenting a rude sketch as a perfect science, and to their keeping behind the science of their day, instead of on a level with it. Impatient of contradiction, they shut their eyes to difficulties; unable to accommodate their principles to the principles of Physiology, they contemptuously dismiss objections as 'merely theoretical,' and fall back upon their 'well-established facts.'

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[*] 'Quiconque,' he says, 'est convaincu que la structure des parties du cerveau a un rapport nécessaire et immédiat avec leurs fonctions, trouvera qu'il est naturel de réunir ces deux objets l'un à l'autre, en les considérant et en les traitant comme un seul et même corps de doctrine.'—*Anat. et Phys.* pref. xxv.

[†] Compare his *Anat. et Phys. du Syst. Nerveux*, i. 95 and 271.

This point must not be shirked. Gall's merit is that of having reduced Psychology to a branch of Biology. He must not be at once credited with a revolution, and exculpated from the results. Not only did he take his stand on Phrenology, but emphatically declared that his cranial researches were necessary in order to arrive, by means of observation, at a knowledge of the functions of the various parts of the brain.* 'Mais on affecte d'ignorer la physiologie,' he complains, 'et de ne connaître nous et nos travaux que sous le point de vue de *cranioscopie* de *cranioscopes*.' He was justly wroth with adversaries who tried to divert public attention from his real researches by sarcasms on Cranioscopy. And Broussais, when he became a disciple, repudiated even the name of Psychology. 'Non, messieurs, la phrénologie n'est point un système de psychologie: nous ne devons pas admettre dans cette enceinte, des qualifications qui suggèrent des théories hypothétiques. La phrénologie est la physiologie du cerveau; voilà quelle doit être la véritable acception de ce mot.'†

It is true—and this is some justification of Gall's successors —that inasmuch as Cranioscopy was really the starting-point, and means of verification, of his hypothesis, he did lay great stress on it; affirming that to it we owed 'une physiologie et par conséquent la partie la plus essentielle de la pathologie du cerveau.' And he adds this naïve and astounding proposition: 'There is no other means possible whereby to discover the functions of the cerebral organs; all the others serve at most to confirm what has been discovered by inspection of skulls.' ‡

This remark discloses what every biologist who reads Gall will have seen at once, that Gall had extremely imperfect views of what constituted Physiology, and how it was to be studied. That an inspection of the varieties in configuration of the skull might lead to an Art of reading character is conceivable; but that it could by any possibility lead to a discovery of the functions of the nervous masses to which the skull formed a protecting dome, even supposing that the configurations represented with perfect accuracy the forms of these masses, is assuredly not conceivable by any physiologist. And M. Flourens is thoroughly justified in affirming that Gall, who has given us an anatomy of the brain, 'has not even suspected its physiology. His phrenology, if anything, is a psychology, not a physiology.'* It is to be observed that Gall, who acutely enough saw the impossibility of discovering functions from the simple inspection of organs, contented himself with simple inspection, and never once invoked the aid of the indispensable instrument Experiment. 'On a pendant des siècles entiers,' he says, 'confondu les tendons et les ligaments avec les nerfs, et l'organisation du cœur a si peu conduit les anatomistes à la connaissance de ses fonctions que les artères ont été considérées comme des tubes conducteurs de l'air.'† Perfectly true; and to what does it lead? Evidently to the necessity of determining function by Experiment, where Observation does not disclose it; yet this was precisely the conclusion Gall would not accept. He never experimented himself; he paid no attention to the experiments of others. In fact he had really no other mode of determining function than the extremely fallacious Observation of the coincidences of configuration and character. His doctrine required an anatomical demonstration of the important position that the Brain was an apparatus of organs. Each of these organs needed definition. But unhappily science was not sufficiently advanced to give him the requisite materials; and he was too imperfectly versed in biological philosophy to have formed distinct ideas of what constituted an organ.‡

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* *Fonctions du Cerveau*, ii. p. 33.

† BROUSSAIS: *Cours de Phrénologie*, 1836, p. 2.

‡ *Fonctions*, ii. p. 35.

The convolutions of the Brain, which Gall has mapped out into several distinct compartments, each compartment being the organ of a distinct faculty, are in reality not more distinct than the several folds of a piece of velvet; and a little reflection discloses the absurdity of supposing that one portion of this velvet could be endowed with different properties from every other portion, simply in virtue of its superficial position. The tissue of which the convolutions consist is the same throughout; just as the tissue of the velvet is the same throughout its folds; and that the *mere form of convolution* has nothing whatever to do with the nature of the psychical faculties, is not only evident *à priori*, but is proved *à posteriori*, by the existence of those faculties in animals with unconvoluted brains. Of this more anon.

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* FLOURENS, *op. cit.* p. 188.

† *Réponse au Rapport de M. Cuvier*, p. 245.

‡ 'Aussi tous les anatomistes ont-ils, à juste titre, traité une telle distribution comme arbitraire et désordonnée, puisque n'étant assujétie à aucune notion rigoureuse de philosophie anatomique sur la différence réelle entre un organe et une partie d'organe, elle comporte des subdivisions en quelque sorte indéfinies, que chaque phrénologue semble pouvoir multiplier à son gré.' COMTE: *Cours de Philos. Positive*, iii p. 819.

It was Gall's imperfect conceptions of organ and function which prevented his seeing that his mode of determining function was very misleading. What would he have said to a physiologist, who, hearing that the liver formed bile and sugar, should have assigned the property of bile-formation to one lobe, and the property of sugar-formation to another lobe, no structural differences having been observed? or to one who should assign to the different lobules of the kidney functions as different as are assigned to the different convolutions of the brain?* It is perfectly true that from inspection of an organ no idea of its function can be obtained; and this truth has blinded phrenologists who are not physiologists to the necessity of nevertheless always making anatomy the basis of every physiological analysis. No inspection of the alimentary canal could disclose to us that its function was that of digestion. Nevertheless the function of digestion, except in the crude conception of ordinary men, is only intelligible after a rigorous analysis of the several processes, buccal, stomachal, and intestinal; for the intelligence of each of which, we must assign to each gland its specific secretion, and to each secretion its specific action: a physiologist who should attempt the explanation of digestion on any other mode would justly be slighted by every good biologist in Europe. If Phrenology is the Physiology of the nervous system, it must give up Gall's approximative method for a method more rigorously scientific; and, as Auguste Comte justly remarks, phrenologists, before they can take rank among men of science, must 'reprendre, par une série directe de travaux anatomiques, l'analyse fondamentale de l'appareil cérébral, enfaisant provisoirement abstraction de toute idée de fonctions.' *

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* If he relied on a variety of cases in which the sugar-forming property was active and feeble in conjunction with large and small developments of one lobe, this induction would be set aside by the overwhelming force of the induction on which had been established the rule, that without differences of structure there can be no differences of property; and still less force would be allowed to an induction based on coincidences which were far from constant.

## § IV. Application of the Method.

Observation of men and animals furnished Gall with materials from which a rough sketch of mental phenomena was produced; and whatever deficiences this sketch presented, it had the great and lasting merit of an inductive basis. Instead of deducing a scheme of the faculties from some *à priori* fiction about the nature of the soul, or the simplicity of spiritual substance; instead of deducing the scheme from certain logical and psychological traditions; instead of deducing the scheme from verbal analyses which presented all our faculties as transformed sensations, he sought inductively to ascertain what were the elementary faculties, by ascertaining which of them were manifested separately. 'So far,' says Mr. Combe, 'from a disposition to invent a theory being conspicuous, there appears in the disjointed items of information, which Dr. Gall at first presented to the public, a want of even an ordinary regard for systematic arrangement. His only object seems to have been to furnish a candid and uncoloured statement of the facts in nature which he had observed; leaving their value to be ascertained by time and farther investigation. As soon, however, as observation had brought to light the great body of facts, and the functions of the faculties had been contemplated with a philosophical eye, a system of mental philosophy appeared to emanate almost spontaneously from the previous chaos.' *

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* *Philosophie Positive*, iii. p. 821. Comte is favourable to Gall, yet see his remarks on the multiplication of the faculties, p. 823 *sq.*

It was here, in this construction of a system, that the absence of subjective analysis was most injurious. Observation had supplied a mass of materials, and these were rough-hewn in a hasty unsystematic way. There was no criticism applied to the observations, no analysis disentangled their complexities. Spurzheim and George Combe introduced several improvements in the nomenclature, and made the system somewhat less incongruous. But no one had the faintest conception of what psychological analysis should be, its means, its conditions, and the problems it had first to solve. No one ever attempted to settle the all-important question, How to determine whether any mental manifestation is the direct product of a Faculty, or the indirect product of two or more Faculties? how to distinguish between Faculties and Modes, between elementary actions and associated actions, between energies and synergies? Not a step beyond rough approximative induction could be taken while this scientific basis was unsettled. Thus while the metaphysicians maintained that Memory, Judgment, Attention, and Will, were elementary Faculties, Gall maintained that they were only Modes of each Faculty; and Auguste Comte, in his modification of Gall's scheme, pronounces them to be Synergies of the intellectual Faculties only. Who is right? Obviously the decision can only issue from some clearly defined principle of analysis, biological or psychological, i.e. derived from decomposition of vital phenomena (as when the instinct of nutrition or the instinct of propagation is affiliated on a distinct physiological law) or derived from the decomposition of psychical phenomena (as when a complex act is resolved into its elementary constituents).

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* COMBE: *System of Phrenology*, 3rd edit. p. 53.

Such a clearly defined principle was unsuspected by Gall. He accepted the rude indications of observation as sufficient. Observing that some men manifested a tendency to theft, which was not manifested with equal energy by all men, but which acted blindly and persistently, he at once concluded that there was a special organ for this special instinct. Spurzheim was acute enough to see that this instinct was less special, and that theft was the manifestation of acquisitiveness. In like manner, the faculty of Cunning was by Spurzheim reduced to the simpler faculty of Secretiveness, by eliminating the intellectual element which gave it the special character of Cunning, leaving thus the primitive instinct of Secretiveness. Again, Gall observing that some men were distinguished among their companions by the activity of their veneration, at once concluded that Veneration was an elementary faculty, though a very slight consideration of the phenomena might have shown him its composite nature. By an unfortunate coincidence, the convolution which Gall assigned to this faculty of Veneration in man, was found to be conspicuously prominent in sheep. A recent phrenologist explains this coincidence by affirming that the identity of organs in nowise determines identity of function in man and animals—a suicidal admission which he thus defends: If we analyse the mental phenomenon of Veneration, we find that it has two elements: 1, the abstract tendency to respect; 2, the idea of the object addressed. 'Tout acte de vénération humaine s'accomplit de cette manière et dérive *de l'action combinée de circonvolutions dont plusieurs n'existent pas dans le mouton*.'*

What function, then, has this organ in the sheep? M. Castle thinks that the gentleness and submission of the sheep are due to this instinct of veneration. Broussais sees in it the tendency of the flock to follow a leader.† The explanation seems plausible until we examine the brain of a lion or a tiger, and find the same organ there also. As M. Leuret pleasantly remarks, 'L'organe de la vénération pour ces derniers, il faut en convenir, est un organe parfaitement inoccupé.' *

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* CASTLE: *Phrénologie Spiritualiste*, 1862, p. 19.

† BROUSSAIS: *Cours de Phrénologie*.

It is to be observed that the phrenologists have been fully alive to the synergy of organs in producing mental phenomena, and have often displayed great acuteness in their indications of synergies; but what they have not done is to establish a principle which could decide whether any given manifestation were the direct function of an organ or the product of various organs. Hence their extremely questionable admission of Wit, Ideality, Colour, Individuality, and Eventuality as original faculties; while they reject others equally special, such as a Memory for Dates, or a Memory for Names. If observation suffice, surely the frequently-observed facts of some men being incapable of remembering important dates, such as the birthdays of their children, while other men seem to remember with facility dates the least important to them, ought to constitute a claim for the independence of an organ for Dates; the faculty being not more legitimately affiliated on Individuality or Eventuality than Wit is affiliated on Comparison.

Gall's criticism on the psychologists is effective. After enumerating their various and discordant schemes of the elementary faculties, he remarks, that whether the scheme includes two, three, four, or seven, the error is always the same, namely, that of mistaking abstractions for faculties. 'None of them designates an instinct, a propensity, a talent, or any definite moral or intellectual faculty. How can we explain by sensation, attention, comparison, reasoning, desire, the origin and exercise of such instincts as propagation, love of children, adhesiveness, the talents for mechanics, music, mathematics, poetry, &c.?' Go into a family and observe the strongly-marked disposition of its members: one is proud, the other servile; one is quarrelsome and destructive, the other timid and affectionate; one has an irresistible

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* LEURET: *Anatomie Comparée du Système Nerveux*, 1839, i. p. 568.

propensity to steal, another to construct machines; one is surprisingly musical, and his brother cannot distinguish one tune from another. The same nursery, the same home, the same masters, the same companions, fail to produce similar characters in differently organised brothers and sisters. If education and surrounding circumstances, he asks, had the effect of determining the direction of the faculties and creating aptitudes—as people commonly suppose—how is it that the female bird does not sing like the male? Why do not chickens learn to coo like the pigeons they live with? Why does each species preserve its peculiarities? Above all, why do not animals suckled and reared by parents of another species, manifest the dispositions of their nurses? Would any companionship with philosophers develop in the juvenile athlete a power of seizing abstract relations and pursuing a long chain of reasoning by means of symbols? Would the society of a herd of antelopes develop in the ram the sensitive grace and agility of a deer? Hence the conclusion, confirmed by zoological comparison, that although we are not born with Innate Ideas, we have Connate Faculties and Aptitudes. But even this requires a qualification which Gall saw to be important, namely, that just as the new-born infant has not the maturity of organisation which permits the full performance of all physical functions—these gradually emerging as development goes on—neither has he the maturity of cerebral organisation which permits the performance of all the psychical functions; the Faculties grow and are developed; and their growth is dependent on the development of the organism.

Kant's great principle of seeking in the Laws of Thought a solution of the problems of Philosophy, was by Gall approached from the biological side. 'Si l'on reconnait que les sens procurent des matériaux nombreux, que l'esprit travaille par le moyen d'instruments plus élevés, et si l'on peut établir que l'homme intérieur lui-même est doué d'une multitude de dispositions, nous devons chercher nos idées et nos connaissances en partie dans les phénomènes du monde extérieur et dans leur emploi raisonné, *et en partic dans les lois innées des facultés morales ét intellectuelles.'* * It is true that his attempt to discover these Laws was unsuccessful; but the attempt was made fertile by his conception of the necessity (not seen by Kant) of seeking the organic laws in the organism itself. Kant sought them in subjective analysis.

Gall further saw that not only must the Laws of Thought result from the Laws of the Organism, but that the plurality of Faculties which observation indicated as existing, necessarily implied a corresponding plurality of organs. To attribute the moral and intellectual faculties vaguely to the organism or the 'temperaments' was a sterile procedure. The organism as a whole does not see when the eye is removed, does not secrete bile or saliva when the liver or salivary gland is obstructed, nor does it think when the brain is obstructed. And if the physiological functions have each of them a separate organ, how can the psychical functions be without their separate organs?

Indeed all that relates to the general propositions respecting a plurality of functions, and a plurality of organs, Gall must be admitted to have triumphantly established. It is only in the details that he is unsuccessful.

## § V. Verification of the Hypothesis.

Having indicated the chief points in the Method, I have now briefly to specify the chief reasons which determine the rejection of Gall's hypothesis. That it was a luminous and fertile conception, has been already acknowledged. Like all other conceptions, it had to be confronted with reality. After such a confrontation it would either pass from the condition of an hypothesis to that of a verified theory, or it would be relegated to the limbo of tentative failures. At the end of fifty years of attempted verification what is the result?

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* *Fonctions*, i. p. 84.

The broad, palpable result to which I would first draw attention is that Phrenology, assailed by ridicule, misrepresentation, argument, and passionate contempt, such as usually salute every new and revolutionary hypothesis, has not survived this opposition, has not lived down its ill repute, and converted its antagonists, or the sons of its antagonists, but has lingered with a feeble life of sectarian tradition, inspiring no new prophets, raising up no influential disciples. If vehement opposition is, unhappily, one almost universal consequence of the promulgation of a new conception, there is, happily, another universal consequence of every promulgated truth, namely, that it spreads wider and wider, and irresistibly draws successive generations into its fold. Ridicule never killed any truth; persecution never finally suppressed it. The obstinacy of a few disciples prevents the sacred flame from dying out; by degrees it attracts more serious attention, and this attention discovers fresh evidence; the adhesion of serious minds checks the levity of superficial objectors; the ridicule ceases, and calm investigation proceeds. At this stage the new doctrine perishes, or rapidly passes into general acceptance.

How has Phrenology borne the test? Instead of surviving opposition it has decayed with the declining opposition. It has ceased to be ridiculed, it has ceased to be declaimed against as immoral, and it has ceased to occupy attention. While Science has accepted much of what is acceptable in Gall's method and results, no one has arisen to extend and improve those results, no school of phrenological investigators has kept pace with the discoveries of Anatomy and Physiology, nothing has been added to the labours of Gall, Spurzheim, and George Combe, nothing has been done to bring the doctrine into general acceptance. Here and there a clever man is found who accepts Phrenology; but he is generally (I think it may be said always) one imperfectly acquainted with the results of biological and psychological research. At any rate, not one among the eminent physiologists, psychologists, or physio-psychologists of the present day, accepts the scheme as more than a rude hypothesis, while the vast majority reject it as a false hypothesis.

Such has been the result of fifty years' experience. Instead of gaining ground it has been losing ground. Verification has disproved, not confirmed, the hypothesis. Observation has not supported the Cranioscopy; nor has anatomical research confirmed the Physiology. The disproof is overwhelming, and on this account only has the doctrine sunk into neglect.

In the brief space to which these remarks must be restricted, I cannot, of course, pretend to marshal a tithe of the evidence which has been adduced in disproof. But there are certain crucial instances which would alone suffice to show that the hypothesis is unacceptable. I will begin with Cranioscopy, because that has not only the largest mass of facts in its favour, but is also the aspect of the hypothesis which phrenologists most resolutely advance. That the great diversities in mental manifestations may be correlated with the great diversities of cranial configuration is a proposition, probable in itself, and rendered almost certain by the facts phrenologists have collected. It is probable that every part of the physical organism carries with it the sign of some psychical peculiarity; could we only read that sign! And so long as phrenologists content themselves with discerning and registering all the cases of coincidence between certain manifestations and certain configurations, they are well employed. Such coincidences, however, must be rigidly determined, and, like all other empirical facts, must be held as mere sign-posts, until they be proved *universal*, and until they be bound together by some ascertained law. Now it will scarcely be denied that the observed correspondences between special cranial configuration and mental peculiarities, do, in many instances, fail. Proportionately large 'organs' are sometimes observed in connection with very mediocre powers; proportionately small 'organs,' on the contrary, with very splendid powers. I wish rather to understate than overstate the difficulty, and I will not seek to gain any advantage by multiplying exceptions; it is enough for the present argument if any exceptions have been observed; because any exception to an empirical generalisation is fatal to it *as* an empirical generalisation, and can only be set aside when the generalisation has ceased to be empirical, and has become scientific. Thus, I am aware that phrenologists explain each exception to their perfect satisfaction. But, in explaining it, they quit the sphere of empirical observation to enter that of science; and thus their explanation itself has only the validity which can be given it by theory. To make my meaning more definite, let us suppose that the empirical generalisation of large chests being the cause of great muscular power, is under discussion. As an observed fact—an empirical fact—the correspondence of broad chests and muscular strength, is a valuable addition to our empirical knowledge. Taken as an indication, no one disputes the fact; but taken as a cause, and connected with a physiological theory, it bears quite a different value. The physiologist may say that the fact proves breadth of chest to admit of more perfect oxygenation of the blood, and thus causes greater muscular power. Against such a theory we bring the fact that no absolute and constant relation between broad chests and muscular power exists; if we find large chests accompanying strength we also find small chests in certain lithe, wiry frames accompanying even greater strength; the empirical generalisation is thus destroyed, the explanation is shown to be imperfect, and the ratio of muscular power is shown to depend on some other condition besides the oxygenation of the blood.

When phrenologists explain the exceptions to their empirical facts, they are on the field of pure science, and their explanations can only have value in proportion to the validity of the scientific principles invoked; and thus the Art of Cranioscopy is perpetually forced to recur to Physiology.

Considered empirically, we must say that the mass of observations hitherto collected establishes that *a* causal relation of some kind does exist between the conformation of the skull and the character. No one acquainted with these observations will deny that they are far too numerous to be set down as mere coincidences; but they require much more precision, and, above all, they require a rational basis, before they can be accepted as more than empirical indications. If a hundred men having a given cranial configuration be found to manifest an unusual power of Calculation, and if a hundred men having very ordinary power of Calculation be found to possess nothing noticeable in the cranial configuration previously fixed on as related to Number, the conclusion inevitably is that *a* causal relation must exist between the configuration and the manifestation; but whether *the* causal relation is the one phrenologists have assigned is not proved by such observations; and should any one unequivocal exception be observed, it alone would suffice to prove that *the* relation was still to seek. This is a verdict of inductive Logic which has been strangely disregarded both by phrenologists and their opponents. The opponents of phrenology are too apt to argue as if the exceptional cases destroyed the cases of observed correspondence; the advocates of phrenology almost universally argue as if the exceptions were simply unexplained phenomena by no means impugning the legitimacy of their principles. They cling to the facts of correspondence, and, aware of the logical error of their opponents, aware that no amount of exceptional cases can destroy the evidence which proves *a* causal relation, have overlooked the equally imperative conclusion that one exceptional case points to an incompleteness in their generalisation; and where the exceptions are numerous the incompleteness must be great.

Now nothing is more certain than that observation in daily life, and observation of remarkable cases, disclose numerous and striking exceptions. The writings of anti-phrenologists abound in such. I will here mention but one, that of Mangiamele, the calculating boy, an excellent account of which is to be found in the work named below.* He was the son of a Sicilian shepherd, and from infancy had given signs of a remarkable calculating power, although he had not been taught arithmetical methods, nor indeed anything of the science of Number. He was entirely self-taught; yet the rapidity with which he solved the most intricate arithmetical problems without the aid of graphic signs, was marvellous, and astounded the Académie des Sciences. Here was entirely a crucial instance for Phrenology: a faculty so exceptional in its vigour must have a corresponding development of its organ. But what was the fact? Instead of an eminence on that part of the skull assigned to the organ of Number, there was an absolute *depression*. The fact was admitted by the phrenologists; and indeed was too patent to be disputed; but Broussais and Dumortier endeavoured to evade it by affirming that Mangiamele had, in reality, no special development of the faculty of Number, he effected his marvellous feats of calculation by—genius, imagination, and extraordinary powers of induction and generalisation! The dilemma here is formidable; either the boy could subtract, divide, and multiply with astonishing rapidity and precision by means of his Causality, Comparison, Eventuality, Individuality (the organs invoked to explain his manifestations), in which case the organ of Number, established by Gall, on examination of heads of celebrated calculators, is a fiction and a superfluity, the functions being performed by other organs; or one organ may take upon itself vicariously the function of another, and all phrenological observation becomes doubtful. A man destitute of Tune may thus enchant the ears of Europe by means of his Causality; another may fill his house with the squalling children of his neighbours by the operation of his Comparison or Individuality. We can never say to what organ any action is due; and all the phrenological cases are discredited, on such a supposition. George Bidder is always cited as a clenching case of correspondence between calculating power and the configuration assigned to

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* Louis Peisse: *La Médecine et les Médecins*, 1857. From my review of this work in *Blackwood's Magazine*, December, 1857, in an article entitled 'Phrenology

in France,' I have borrowed the account in the text. In the same article there are other striking cases.

Number. So far good. But now comes the case of Mangiamele, with powers not less remarkable, and on his skull there is a depression instead of an elevation. That is to say, the faculty is present in the absence of the organ—or, to speak more accurately, the faculty is enormous where the organ is unusually small.

Another and still more convincing example is that of the cerebellum assigned as the organ of amativeness, and considered by phrenologists to be one of the best established organs in their scheme, founded upon numerous facts of comparative anatomy, pathology, and common observation. It is only necessary to interrogate the works of comparative anatomists, physiologists, and pathologists, to see that the disproof of this hypothesis is overwhelming. What the functions of the cerebellum are, we do not know as yet; but one thing we positively know, and that is, that it is *not* the organ of sexual desire.*

I might take each organ in turn, and show that against the facts phrenologists adduce in its favour, an array of facts can be adduced against it, sufficient, if not to disprove altogether the cranioscopic hypothesis, at any rate to throw such doubt upon it as to be reconciled only by a rational explanation, which must come from a true psychological law. The rational explanation would either show the exceptional facts to be perturbations of the law; and these perturbations might or might not admit of reduction to some subsidiary law; or it would show that the generalisation itself was imperfect. In any case the facts observed preserve their value; both the facts against, and the facts in favour of the generalisation. That the counterfacts invoked by anti-phrenologists are not always of the nature of perturbations, but of direct contradictions, may be readily shown. Although inductive Logic refuses to conclude against the cases of correspondence simply on the ground of cases of non-correspondence (perturbations), it forces us to conclude on the ground of direct contradiction. Let us consider the case of Mangiamele. Fifty examples of the organ of Number largely developed, without corresponding activity of the functional manifestation, would not disturb the value of the observed correspondences; for these imperfect manifestations may have been due to various perturbing causes. But one case of the presence of an unusual activity of the function in the absence of the organ, or rather in a remarkable deficiency of the organ, is a direct contradiction of the supposed relation between the function and the organ; and leads either to a relinquishment of the hypothesis, or dissolves the very basis on which phrenology is erected. For if functions can be active where the corresponding organs are deficient, or if one organ can take on the function of another, cranioscopical indication is fallacious.

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* Even M. BOUILLAND, who accepts GALL's principles, but is unable to see the evidence for the localisations, and consequently rejects Cranioscopy, has recently declared, 'quant à la localisation de l'instinct de la génération dans le cervelet, je suis un de ceux qui l'ont combattue de la manière la plus résolue, mais toujours en respectant le principe fondamental de la pluralité et de la spécialité des organes cérébraux.' *Bulletin de l'Acad. de Médecine*, Avril 1865, p. 586.

It is, therefore, simply on the ground of non-correspondence with fact, as observed roughly in common, and as rigorously tested by the more precise methods of science, that Cranioscopy has failed to gain general acceptance. Phrenologists have collected cases with great assiduity; these present an imposing array; but scientific scepticism brought to their examination discloses fatal discrepancies. I say nothing of the loose way in which many of the phrenological facts are determined, though this alone would greatly diminish their presumptive value;* it is enough that daily observation, practising the *same* loose methods of determination, constantly alights on glaring discrepancies; and that scientific observation, guided by precise methods, uniformly discredits the phrenological localisations.

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* 'Au lieu d'employer le mètre et la balance dans un ordre de faits qui le comporteraient si bien, Gall et Spurzheim ont toujours et leurs partisans ont presque toujours préféré la simple inspection. Les mots "plus grand, plus petit, énormément développé, il est facile de voir" se retrouvent à chacune de leurs pages, mots très expressifs pour les hommes prévenus, mais qui dans la réalité n'ont le plus souvent aucune valeur.' LEURET: *Anatomie Comparée du Système Nerveux*, i p. 430. To the same effect PARCHAPPE: *Recherches sur l'Encéphale*, 1838, i p. 10. The credulity of phrenologists is at times quite naïve. Gall mentions the case of a bookseller born blind, who had nevertheless, by means of his organ of colour, precise notions of the distinction and harmony of colours' (*Fonctions*, v. p. 85); and Mr. George Combe, not in the least sceptical of such a 'fact,' records that he also knew 'a blind man who distinguished colours with great accuracy

But Cranioscopy might be true, or sufficiently true to warrant the acceptance of its facts of correspondence between cranial configuration and mental manifestations, yet Phrenology, or the Physiology of the Brain which has hitherto formed its scientific basis, might be very far from true. Gall indeed supposed otherwise. He maintained that it was purely by cranioscopic indications we could determine the cerebral functions.* Unless the organs were all situated at the surface of the brain, and (note this point!) *were limited within the superficial limits*, Cranioscopy could be no more than Physiognomy, a rough indication of general conditions, not an anatomical guide to functions. In other words, the basis of Phrenology rests on four positions:

1. That the grey matter of the convolutions is the organic substance of all psychical actions.
2. That no other part of the nervous system has any essential connection with the mind.
3. That each distinct faculty has its distinct organ.
4. That each organ is a limited area of grey matter.

Of these four fundamental positions, only the third is true, and even that is left in vagueness, for Gall nowhere determines what constitutes a Faculty, he nowhere describes an Organ. The other three are all more or less false. If it is mainly to Gall's impulsion that science owes the definite notions which enable us to reject his hypothesis, we must pay him our tribute even while rejecting his views. There is nothing derogatory to him in asserting that his knowledge of the nervous system was incomplete, and that he had very imperfect notions of what, strictly speaking, constituted an

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by means of touch' (*Phrenology*, p. 413). Could not Mr. Combe detect the difference between distinguishing colours and distinguishing coloured objects? the one being beyond the sense of touch, the other being simply fineness of touch.

* *Fonctions*, iii. pp. 2, 4.

Organ. On the latter point, Biology is still without a satisfactory definition; and many biologists confound *properties of tissue* with *functions of organs*. Having made this general remark, I will proceed to show, briefly, yet it is to be hoped conclusively, the untenableness of Gall's cerebral views.

1. *The grey matter of the convolutions.* 'L'on sait que les fonctions, propres à chaque système de nerfs, sont réalisées dans leur expansion périphérique; or j'ai démontré que les circonvolutions du cerveau ne sont autre chose que l'expansion périphérique des faisceaux dont il se compose; par conséquent, les circonvolutions du cerveau doivent être reconnues pour les parties où s'exercent les instincts, les sentimens, les penchans, les talens, en général les forces morales et intellectuelles.' *

Waiving for the present all consideration of the second proposition, which excludes every other portion of the nervous system, and limits psychical functions to the convolutions of the cerebrum and cerebellum, I remark that Gall altogether fails to seize the distinction between functions and properties of tissue, and consequently makes no attempt to define each cerebral organ, beyond the limitation of a given superficial area in an *uniform* substance. The *properties* of the velvet (to recur to our former illustration) depend on the structure of the velvet; the *uses* to which that velvet is put are in no sense determined by the *folds* in the velvet, but by the *connections* of each part with other parts: thus the skirt, boddice, sleeves, wristbands, and waistband, are various distinct parts of the velvet dress, but the properties of the velvet do not vary with this variation of the uses which they subserve. It is the same with the grey matter of the brain: that also is an uniform substance, variously folded into convolutions, and variously connected with different parts of the organism; the special *property* of this uniform substance is Sensibility; the special *functions* subserved by it, depend upon its organic connections. In connection with the various Senses, its functions will be perceptions of Sight, Sound, Touch, Smell, and Taste. In connection with visceral organs, its functions will be perceptions of systemic sensations. In connection with muscular organs, its functions will be volitional. The brain has often been compared to a galvanic battery. Let us adopt the comparison. On the ends of the two conducting wires, two pieces of charcoal are fixed, and the result is the electric light; the two conductors are placed in a solution, and the result is a chemical decomposition; the two conductors are placed in a mixture of gases, and the result is a chemical composition; the conductors are placed in relation with a telegraphic apparatus, and the result is a transmission of a message from one country to another. But all these various results have been due to the various *applications* of the electric force, they have not been due to varieties in the battery. By no inspection of the battery could these results have been divined; by no numeration of the several galvanic couples could these phenomena have been discriminated. The phenomena did not wholly depend on the plates of zinc and copper; they did not at all depend upon the relative positions of those couples in the battery; and yet to enumerate the various convolutions of the cerebrum, and affix to each, and to separate areas of each, the various functions of the mind, is as unscientific as to assign the electric light to one couple, the telegraph to another, and the chemical decomposition to a third couple, irrespective of their connections.

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* *Fonctions*, ii. p. 13.

Of this Gall had no suspicion. As I have said, he had the vaguest ideas of what constituted an organ; and although he declared, and truly declared, that the faculties, being separate, required separate organs, he nowhere endeavours to demonstrate a cerebral organ. At one time he seems to consider it a bundle of fibres; at another a single fibre. That it could be *neither* he never suspected. 'Le cerveau consistant en plusieurs divisions dont les fonctions sont totalement différentes, il existe plusieurs faisceaux primitifs, qui par leur développement contribuent à le produire conformément aux lois auxquelles obéissent les autres systèmes . . . nous rangeons parmi les faisceaux les pyramides antérieures et postérieures, les faisceaux qui sortent immédiatement des corps olivaires,

et encore quelques autres.'* Granting the hypothesis, we should have to remark first, that the bundles were too few for the seven-and-twenty faculties; and secondly, that these bundles are not to be discriminated on the area of the convolutions. Subsequently, he was disposed to regard every fibre in the nerves, or in the brain, as a little organ by itself.† The conception of a fibre or a bundle of fibres constituting an organ, will surprise the philosophic biologist.

It seems to me, that the objection which arises from the preceding exposition is fatal to Gall's scheme. He affirmed that the brain was not a single organ having a single function, but a complex unity of various organs having diverse functions. He established this position by an overwhelming array of evidence. But when he came to take the next step, and assign each function to its particular organ in the brain, he was wholly without a principle of determination, he neither conceived steadily what an organ was, nor attempted anatomically to discriminate the parts of the brain that each organ involved.‡ Considering that there are some sixty distinct parts in the whole encephalon, each of which has received its distinct name, we were surely in need of some guide which would lead us amid the labyrinth, and point out which parts were severally grouped into distinct organs? Gall, who revolutionised the mode of dissecting the brain, had no better guide than what cranial configurations might suggest. The internal structure of this eminently complex apparatus was to be disregarded; and our attention fixed on the variations of the surface. One might as reasonably explain the mechanism of the clock by the position of the figures on its dial.

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* Gall: *Anat. et Physiol. du Système Nerveux*, i. p. 271. To the same effect Spurzheim: *Observations sur la Phrénologie*, pp. 74, 94.

† *Op. cit.* iv. p. 8.

‡ M. Parchappe has well remarked, 'Il est singulier que Gall tout en perfectionnant l'anatomie du système nerveux par d'importants travaux qui constituent son titre scientifique le plus glorieux, n'ait pas fait porter ses recherches sur les points qui eussent précisément pu servir à vérifier la légitimité de son système, s'il avait pu démontrer que la périphérie des hémisphères cérébraux se décompose effectivement en organes distincts, correspondant aux fonctions distinctes dont il admettait l'existence.' *Bulletin de l'Acad. de Médecine*, mai 1865, p. 684.

The subject of the convolutions is one which might furnish an instructive chapter, did space permit; but I must content myself with affirming that the researches of anatomists have disproved every point advanced by Gall. Curiously enough, M. Camille Dareste has placed beyond dispute the fact, that the number and depth of the convolutions bear *no* direct proportion to the development of intelligence, whereas they *do* bear a direct proportion to the size of the animal. Thus, given the size of the animal in any genus, and he can predict what are its convolutions; or vice versa, given the convolutions, and he can predict the size of the animal. 'Toutes les espèces à cerveau lisse ont une petite taille; toutes les espèces à circonvolutions nombreuses et compliquées sont, au contraire, de grande taille.' *

In a word, the convolutions cannot be accepted as the 'organs' of the faculties; nor even as correctly indicating the organs. They are simply folds of an uniform tissue; this tissue has a peculiar property, Sensibility, which applied in different connections serves various functions; but the *organs constituted out of these connected parts* are no more to be identified with the particular portions of the vesicular tissue which supply their Sensibility, than the telegraph is to be identified with the plates which supply its electricity. Thus it is that the area of convolution which in one man might be connected with a peculiar mechanism, in another might be so imperfectly connected with that mechanism, or might supply so imperfect a mechanism, that the results would be different or even opposed. Of this Cranioscopy can tell nothing. It is limited to the surface. And hence it is that the skull is considered sufficient evidence. The surface of the skull tells as much as the surface of the brain; as much and as little.

I will merely in passing observe, that the axiom of which so much use is made by phrenologists, 'other things equal, size is the measure of power,' though indisputable, is fallacious, since the 'other things' never are equal. If the external indications were expressions of the internal structure, size would be a measure of power, and Cranioscopy a guide to character: unhappily it is not so.

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* *Annales des Sciences Naturelles*, 3ième série xvii. 30 and 4ième série i. 73.

Let us now pass to the second position on which Phrenology is based, that the cerebrum only is the seat of the psychical faculties. Gall has here the vast majority of biologists on his side. There is scarcely one teacher in a hundred who does not declare the Brain, and the Brain exclusively, to be the organ of the mind. I have elsewhere[*] marshalled abundant facts and arguments in disproof of this illogical and obstructive hypothesis; but for the present it is enough to point out that Gall was in opposition to his own principles when he thus limited the seat of psychical faculties. In opposition to logic, for he thereby implied that community of structure did not carry community of property: implied that ganglia in one part of the system had not the same Sensibility as ganglia in another. In opposition to zoological observation, for he thereby implied that the instincts and propensities exhibited by animals with brains could not be manifested by animals without brains, whereas it is notorious that the instinct of propagation, the instinct of destructiveness, the instinct of constructiveness, and others, are manifested by animals having no brains, nothing but simple ganglia.

He had indeed a glimpse of the logical error when he was treating of the grey substance of the convolutions as the origin of the nerves, for he there asks 'pourquoi auroit-elle dans le cerveau une destination différente de celle qu'elle a dans les autres systèmes nerveux?'[†] Had he not been misled by his hypothesis of the nutritive office of the vesicular substance (long since refuted), and had he conceived Sensibility as the property of this tissue, he would have reversed his question and asked, 'Why has this tissue Sensibility in the convolutions, and not in every other ganglionic mass?'

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[*] *Physiology of Common Life*, vol. ii. RUDOLPH WAGNER finds himself compelled by the evidence of experiment to retract his former views and to admit the existence of psychical manifestations in the absence of the brain. 'Je reconnais même qu'un certain nombre de phénomènes psychiques persistent chez les pigeons auxquels on a enlevé le cerveau, le cervelet, et une partie du mésocéphale.' *Brown-Séquard's Journal de la Physiologie*, 1861, iv. 551. My experiments on reptiles and insects showed the persistence of psychical manifestations after the head had been cut off.

[†] GALL: *Anat. et phys.* i. 242.

Gall's principles demanded that the subjective analysis should correspond with the biological analysis, and that mental manifestations should be affiliated on the physical organs; but his Cranioscopy could not accommodate itself to such a procedure: it demanded that the cerebrum should be the exclusive seat of the psychical faculties, and that the surface of the cerebrum should in its varieties reveal the organs of those faculties.

If the reader has followed these few pages with assent, he will see that the basis of Phrenology is laid on shifting sand; and that if men of science have long since declined to occupy themselves with the hypothesis, it is because the alleged facts of Cranioscopy are not found to be sufficiently accurate and general to warrant confidence in that Art, and because the Psychology and Physiology which Gall and his successors offer us, are neither reconcileable with psychological analysis, nor with the present condition of Anatomy and Physiology.*

The course of our History now leads us to the important movement in Germany, which, begun by Kant, ran a rapid and brilliant career till it came to a crisis in the Hegelian school. I have placed Gall before Kant, although chronology is thereby somewhat disturbed, in order that from Kant the course of evolution might be followed without interruption.

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* Space has not permitted the citation of a tithe of the arguments and observations which discredit Phrenology. The student is referred to LÉLUT: *Rejet de l'Organologie*, and his subsequent work *La Physiologie de la Pensée*, for conclusive examples against the special localisations; also to PEISSE. *La Médecine et les Médecins*. With regard to Anatomy and Physiology almost any and every modern work may be consulted; but LEURET and GRATIOLET, *Anatomie Comparée du Système Nerveux*; or WAGNER, *Neurologische Untersuchungen*, may be specially named, the former abounding in facts drawn from comparative anatomy, which admit of no escape.

# NINTH EPOCH.

## *Recurrence to the fundamental question respecting the Origin of Knowledge.*

## CHAPTER I.

### *KANT.*

### § I. Life of Kant.

IMMANUEL KANT was born at Königsberg, in Prussia, 22nd of April, 1724. His family came originally from Scotland, and changed their name of Cant into Kant to suit the German pronunciation. This Scottish origin, when taken in conjunction with his philosophical connection with Hume, has some little interest. His father was a saddler, a man of tried integrity. His mother was somewhat severe, but upright, speaking the truth, and exacting it. Kant was early bred in a love of truth and had before him such examples of moral worth as must materially have contributed to form his own inflexible principles.

Madame de Staël has remarked, that there is scarcely another example, except in Grecian history, of a life so rigorously philosophical as that of Kant. He lived to a great age, and never once quitted the snows of murky Königsberg. There he passed a calm and happy existence, meditating, professing, and writing. He had mastered all the sciences; he had studied languages, and cultivated literature. He lived and died a type of the German Professor: he rose, smoked, drank his coffee, wrote, lectured, took his daily walk always at precisely the same hour. The cathedral clock, it was said, was not more punctual in its movements than Immanuel Kant.*

He was early sent to the University. There he began and there he ended his career. Mathematics and physics principally occupied his attention at first; and the success with which he pursued these studies soon manifested itself in various publications. He predicted the existence of the planet Uranus; and Herschel himself, after discovering it, admitted Kant's having first announced it.

But none of these publications attracted much attention till the renown of his *Critique of Pure Reason* had made everything produced by him a matter of interest. Nor did the *Critique* itself attract notice at first. The novelty of its views, the repulsiveness of its terminology and style, for some time obscured its real value. This value was at length discovered and made known. All Germany rang with praises of the new philosophy. Almost every 'chair' was filled by a Kantist. Numberless books and not a few pamphlets came rapidly from the press, either attacking or defending the principles of the Critical Philosophy. Kant had likened himself to Copernicus. The disciples likened him both to Copernicus and Newton, declaring that he had not only changed the whole science of Metaphysics, as Copernicus changed the science of Astronomy, but had also consummated the science he originated.

The *Critique* was, he tells us, the product of twelve years' meditation. It was written in less than five months. These two facts sufficiently explain the defects of its composition. In his long meditations he had elaborated his system, divided and subdivided it, and completed its heavy and useless terminology. In the rapidity of composition he had no time for the graces of style, nor for that all-important clearness of structure which (depending as it does upon the due gradation of the parts, and upon the clearness with which the parts themselves are conceived) may be regarded as the great desideratum of a philosophical style.

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* He mentions having once been kept two or three days from his promenade by reading Rousseau's *Émile*, which had just appeared.

But in spite of these defects—defects which would have been pardoned by no public but a German public—the *Critique* became celebrated, and its author had to endure the penalty of celebrity. He was pestered with numerous calls of curious strangers, who would not leave Königsberg without having seen him. To the curious were added the admiring. Enthusiastic scholars undertook long journeys to see their great master. Professor Reuss one day walked into his study, saying brusquely that 'he had travelled a hundred and sixty miles to see and speak with Kant.' The visits became so numerous, that in the latter part of his life he contented himself with merely showing himself at the door of his study for a few minutes.

Kant never spoke of his own system, and from his house the subject was entirely banished. He scarcely read any of the attacks on his works: he had enough of Philosophy in his study and lecture-room, and was glad to escape from it to the topics of the day.

He died on the 12th of February, 1804, in the eightieth year of his age, retaining his powers almost to the last. He latterly, during his illness, talked much of his approaching end. 'I do not fear death,' he said, 'for I know how to die. I assure you that if I knew this night was to be my last, I would raise my hands, and say "God be praised!" The case would be far different if I had ever caused the misery of any of his creatures.'

A picture of Kant's daily habits, and many interesting traits of his character, will be found in the works named below.* I cannot find space for such details; nor for more than a passing mention of Kant's relation to Swedenborg, of which such unjustifiable use is often made by the admirers of the latter, who proclaim, with emphasis, that Kant testified to the truth of Swedenborg's *clairvoyance.* He did nothing of the kind. In his *Letter on Swedenborg*[*] he narrates two of the *reported* cases of Swedenborg's *clairvoyance*, and says he knows not how to disprove them, they being supported by such respectable testimony; but he nowhere testifies to them himself; and in the *Anthropologie*, §§ 35 and 37,[†] his energetic contempt for Swedenborgianism and all other *Schwärmerei* is unequivocally expressed.

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* BOROWSKI: *Darstellung des Lebens und Charakter Immanuel Kant's*, 1804. A biography revised by KANT himself, though not published during his lifetime. WASIANSKI: *Immanuel Kant in seinen letzten Lebensjahren*, 1804. This has been reproduced by DE QUINCEY: *Works*, iii., 'Last Days of Immanuel Kant,' where the English reader will do well to seek it. SCHUBERT: *Kant's Biographie* in the edition of Kant's works by ROSENKRANZ and SCHUBERT.

## § II. The Critical Philosophy.

Kant was undoubtedly one of the profoundest of thinkers, and produced so deep and agitating an impression on the mind of Europe, that he may be said to have given a new aspect to several of the fundamental questions of Metaphysics; yet there was nothing new in his Method, and little that was absolutely new in his results. Previous thinkers had reached similar results; but there was a novelty in the systematic precision of his results which gave them a clearness that amounted to a revelation. When we have translated his technical and often cumbrous terminology into ordinary language, we find the thought a familiar one; but we also find that Kant has given it a sharpness of definition which renders it unforgetable, and that he has shown its unsuspected relations to other thoughts. How much of his influence may be due to the very novelty and obscurity of his exposition, it would be difficult to estimate. Undoubtedly the form is at first repulsive; but those whom it does not wholly repel it finally fascinates. The history of Philosophy is indeed, to a great extent, a history of the fascination exercised by phrases. Students begin by declaiming against Kant's style, are piqued into vanquishing its difficulties, and end in overvaluing their difficult conquest.

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[*] *Kleine Anthropologische Schriften* (Theil vii. p. 5, ed. Rosenkranz).

[†] *Zweite* Abtheil. p. 89 *sq.*

As I shall have to express dissent at almost every turn, I must be allowed to begin my exposition with an emphatic expression of deep veneration for the mighty intellect which produced the *Critique of Pure Reason*. But it is only as a thinker, not as a writer, that Kant deserves applause. Speaking from a tolerably extensive acquaintance with philosophic literature, I cannot name a work of real power which exhibits such an utter disregard of every condition of good style as is exhibited by the *Kritik*. Its terminology is the least of its offences. Its composition is disgraceful. The sentences are long, clumsy and involved; the separate clauses are seldom well constructed, and these clauses are rather thrown together than logically subordinated. Approximative expression and bad construction render it inexpressibly fatiguing. To find a rival to it, we must go back to the work of Archimedes, where that great geometer has set forth propositions which require to be read several times before the student seizes the meaning of the proposition to be demonstrated. As a critic remarks: 'Avant d'arriver à la fin on a oublié le commencement. Il faut les relire bien des fois avant de comprendre quelle est la proposition à démontrer. On peut juger quelle sera la difficulté de suivre tout le développement de la démonstration même, et quelle a surtout été celle de la découvrir à moins que ce grand géomètre n'ait employé des signes abréviatifs qu'il n'ait pas fait connaître.'* Kant defends himself by assuming that it is the absence of 'popularity' and 'entertainment' which caused men to dip into and not read the *Kritik*; and he has an easy retort against any philosopher who should demand such qualities.† But the objection had a deeper source. And the proof of it is seen in the singular misapprehension of his meaning which is frequently exhibited by men thoroughly versed in metaphysical speculations, and careful students of his work. It is not enough to point to men like Sir

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* DUHAMEL: *Des Méthodes dans les sciences de raisonnement*, 1865, p. 88.

† *Prolegomena zu jeder künftigen Metaphysik*, Werke, ed. HARTENSTEIN, iii. p. 172.

W. Hamilton, Mr. Mansel and Victor Cousin, who are arraigned as having flagrantly misunderstood him on certain points; but among the Germans, nay among the Kantians themselves, there is perpetual controversy as to what his meaning was. So little *composition* is there in the *Kritik* that a controversy has arisen, and is yet far from settled, respecting the changes in doctrine, as well as in exposition, introduced in the second edition of the *Kritik*. Michelet, Schopenhauer, and Kuno Fischer affirm a radical change; Ueberweg and Mr. Mahaffy affirm complete consistency.*

Kant never writes well; but he is intelligible in other works, and repulsive only in the *Kritik*. On this account, and on others, the student is advised to leave that work in peace until he has, from other sources, mastered the Kantian principles; which may easily be done by some such course as this: Beginning with Mr. Mansel's *Prolegomena Logica*, and Victor Cousin's *Leçons sur Kant*, he may take in hand Apelt's *Metaphysik*, which reproduces the Kantian ideas in a clear style; he is then fitted for Kant's *Prolegomena*, which is a popular exposition expressly written to make the *Kritik* intelligible.†

There are several parts of the system which, although occupying students of German Philosophy and interesting in relation to Kant, need not be touched on here, since they hardly come within the course of historical evolution. Even on those points which it is necessary for me to consider I must be briefer than I should desire.

From Spinoza to Kant the great question we have seen to be this: Have we any ideas which can be accepted as objective truths, and which, removed from the possible illusions of the senses and the understanding, may be made the basis of a Philosophy revealing the realities of existence?

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* Kuno Fischer: *Commentary on Kant's Kritik*. Translated by J. P. Mahaffy, 1866. Ueberweg: *De priore et posteriore forma Kantianæ Critices Rationis Puræ*, 1861, and *System der Logik*, 1865.

† 'It describes the way in which Kant reached his discoveries. It shows the whole critical investigation in its natural untrammelled course, and therefore not only shows us but facilitates our view of the inner construction of the critical philosophy.' Kuno Fischer, *op. cit.* 24. This work, which would be easily intelligible to the English public, has not found a translator, whereas the *Kritik*, on all grounds repulsive, has been several times translated. I shall occasionally avail myself of the meritorious version by Mr Meiklejohn published in *Bohn's Philosophical Library*.

This question, variously answered, resolved itself into the more definite question: Have we any ideas independent of Experience?

It had become evident that before we could determine the objective value of our knowledge we were bound to investigate the nature and conditions of the knowing faculties. Ontology thus was for a time superseded by Psychology. The attempts to settle the psychological question have already been exhibited in our chapters on Locke, Hume, the Sensational School, the Scotch School, and Gall. All these proclaim Experience the foundation of knowledge: and yet inasmuch as Experience led irresistibly to Scepticism this was a dilemma which seemed only to be avoided by seeking refuge in Common Sense, i.e. a denial of Philosophy. Kant declined this refuge.* He saw two conceptions of the world to be logically tenable: Materialism and Scepticism: he rejected both, and strove to reconcile what was true in both with what was true in the *à priori* doctrine. He called his system a *Criticism*. His object was to examine into the nature of this Experience which led to Scepticism. While men were agreed that Experience was the source of all knowledge, Kant asked himself, What is this Experience?—What are its Elements?

The problem he set himself to solve was but a new aspect of the problem of Locke's *Essay*. On this deep and intricate question of human knowledge two opposite parties had been formed—the one declaring that all our knowledge was given in Experience, and that all the materials were derived from Sensation, and Reflection upon those materials; the other declaring that these only furnished a portion of our knowledge. This second party maintained that there were elements of knowledge which not only were never derived from sensation, but which absolutely *transcended* all sensation. Such, for instance, is the idea of Substance. Experience only informs us of *qualities*: to these qualities we add a substratum which we call Substance; and this idea of a substratum, which we are *compelled* to add, Locke himself confesses we never gained through any sensation of matter.* Other ideas, such as Causality, Infinity, Eternity, etc., are also independent of Experience: *ergo*, said this school, antecedent to it.

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* He said it was the notable invention of modern times whereby the emptiest noodle could place himself on a level with the profoundest thinker. *Prolegomena: Vorrede*, Werke, iii. 170.

In the course of inquiry, the untenableness of the theory of innate ideas had become apparent. Descartes himself, when closely pressed by his adversaries, gave it up. Still the fact of our possessing ideas apparently *not* derivable from experience, remained: and this fact was to be explained. To explain it, Leibnitz asserted that although all knowledge *begins with* Sensation, it is not all *derived from* Sensation; the mind furnishes its quota; and what it furnishes has the character of universality, necessity, consequently of truth, stamped on it. This doctrine, slightly modified, is popularly known as the doctrine of 'original instincts'—of 'Fundamental Laws of Belief.'

Kant also recognized the fact insisted on by the adversaries of the Sensational School; and this fact he set himself carefully to examine. His first object was therefore a Criticism of the operations of the mind.

Kant considered that his conception of a purely critical philosophy was entirely original.* No one before him had thought of thus subjecting Reason itself to a thoroughly critical investigation, in order to reach answers to such questions as: Are *à priori* synthetic judgments possible? Is a science of Metaphysics possible? And here may be noted an illustration of what was said at the opening of this section respecting Kant's originality. Certainly no one had isolated the *à priori* elements of knowledge from those given in Experience, as Kant isolated them, to build a system thereon; nevertheless the whole tendency of speculative development since Hobbes, had been, as we have seen, towards the investigation of the grounds of certitude, i. e. towards a criticism of the knowing faculties.

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* And Sir W. HAMILTON repeats the statement: *Discussions*, p. 16.

On interrogating his Consciousness, Kant found that neither of the two ordinary explanations would account for the phenomena: certain ideas, such as Time, Space, Causality, etc., could not be resolved into Experience alone: nor, on the other hand, although *à priori*, could they be supposed absolutely *independent* of Experience, being as it were only the *forms* (necessary conditions) of our Experience.

There are not *two* sources of knowledge, said he: on the one side external objects, and on the other human understanding. Knowledge has but *one* source, and that is the *union* of object and subject: it is the function of two coefficients. Thus, water is the union of oxygen and hydrogen; but you cannot say that water has two causes, oxygen and hydrogen; these are its conditions (*Bedingungen*), its coefficients; it has only one cause, namely, the union of the two.

In this conception the existence of the two distinct factors is assumed. 'That all our knowledge begins with Experience,' he says, 'there can be no doubt. For how is it possible that the faculty of cognition should be awakened into exercise otherwise than by means of objects which affect our senses, and partly of themselves produce representations (*Vorstellungen*), partly rouse our powers of understanding into activity, to compare, to connect, or to separate these, and so to convert the raw material of our sensuous impressions into a knowledge of objects which is called Experience? In respect of time, therefore, no knowledge of ours is antecedent to Experience, but begins with it. But although all our knowledge begins with Experience, it by no means follows that all arises out of Experience. For, on the contrary, it is quite possible that our empirical knowledge (*Erfahrungserkenntniss*) is a compound of that which we receive through impressions, and that which the faculty of cognition supplies from itself (sensuous impressions giving merely the *occasion*), an addition which we cannot distinguish from the original element given by sense, till long practice has made us attentive to and skilful in separating it. It is therefore a question which requires close investigation, and is not to be answered at first sight—whether there exists a knowledge altogether independent of Experience, and even of all sensuous impressions.' *

Kant compares the revolution he effected in Philosophy to the revolution Copernicus effected in Astronomy. This claim has been generally, but I think inconsiderately, admitted. The survey Kant takes of the development of Science seems to me altogether misdirected. He asks how it is that Mathematics and Physics have been perfected. 'Thales, or whoever he was, who first demonstrated the right-angled triangle, had a luminous conception; for he found that it was not by contemplating the figure before him or deducing its properties from his concept of the figure, but found that it was necessary to bring out these properties constructed by him *à priori*, and that to arrive at *à priori* certainty he must not attribute to the object any other properties than those necessarily deduced from the concept he had formed.'†

Now this, which may be the legitimate process in Mathematics, is not only an illusory process in Physics, but is the process which was actually followed until the rise of the Objective Method came to discredit it for ever. Mathematics is deductive and *à priori*; and it was because the early physicists tried to construct their science on the same *à priori* method that they failed egregiously. Kant, referring to Galileo and Torricelli, affirms that they also proceeded on this Subjective Method. 'They learned that Reason only sees that which it produces according to its own scheme (*was sie selbst nach ihrem Entwürfe hervorbringt*); that it must advance with principles of judgment according to invariable laws *compelling Nature to answer its questions, and not allow itself to follow*

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* *Kritik: Einleitung.* (MEIKLEJOHN's trans. p. I.)

† *Kritik: Vorrede zur zweiten Ausgabe*, Werke, ii. 14.

*Nature's lead.*' Reason, in short, is to dictate to Nature as a master, not obey her as a pupil; and Physics, we are told, owes its revolution to this luminous idea! To make Metaphysics a progressive study, he conceived that a similar revolution was necessary. Hitherto men had assumed that knowledge should accommodate itself to external objects; he now proposed to reverse this procedure, and assume that objects obeyed the laws of knowledge.*

He calls this system critical, because it is founded on an examination of our cognitive faculties, and compares his point of view with that of Copernicus. But Copernicus positively changed the point of view. Kant did nothing of the kind: his attempt to deduce the laws of the phenomenal world from the laws of mind, only gave greater precision to the attempt of Descartes to deduce the world from Consciousness; it was the same as the attempts of Leibnitz and Berkeley in method; and the *result* was very much the result obtained by Hume, namely, that we can know nothing but our own ideas, we can never know things *per se*. Kant, after analyzing the operations of the mind, discovered indeed certain principles of certitude; but he admitted that those principles could not be applied to things *beyond* the mind; and that all within the sphere of our cognition was no more than phenomenal. He reviews his investigation, and then, declaring that he has gone the round of the domain of human Understanding and measured it exactly, he is still forced to admit that that domain is only an island. Nature has assigned to it invariable limits. It is the empire of Truth; but it is surrounded by a stormy and illimitable sea, upon which we discover nothing but illusions. There, on that sea, the navigator, deceived by masses of ice which appear and disappear successively before him, believing that at every moment he is about to discover land, wanders without repose, guided only by one hope; he is the plaything of the stormy waves, always forming new plans, always preparing himself for new experiences, which he cannot renounce, and yet which he can never obtain.

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* 'Bisher nahm man an alle unsere Erkenntniss müsse sich nach den Gegenständen richten . . . man versuche es daher einmal, dass wir annehmen, die Gegenstände müssen sich nach unserem Erkenntniss richten.'—*Loc. cit.* p. 17.

To the Sceptic Kant says, 'No: experience is not a deceit; human Understanding has its fixed laws, and those laws are true.'

To the Dogmatist he says, 'But this Understanding can never know Things *per se.* It is occupied solely with its own Ideas. It perceives only the Appearances of Things. How would it be possible to know Noumena? By stripping them of the *forms* which our Sensibility and Understanding have impressed upon them (*i. e.* by making them cease to be Appearances). But to strip them of these forms, we must annihilate Consciousness—we must substitute for our Sensibility and Understanding, a faculty, or faculties, capable of perceiving Things *per se.* This, it is obvious, we cannot do. Our only means of communication with objects are precisely this Sensibility and this Understanding, which give to objects the forms under which we know them.'

To the Dogmatist, therefore, Kant's reply is virtually the same as Hume's. He proves that the Understanding, from the very nature of its constitution, cannot know Things *per se.* The question then arises, Have we any other Faculty capable of knowing Things *per se?* The answer is decisive, We have *no* such Faculty.

The difference between Hume and Kant, when deeply considered, is this:—Hume said that the Understanding was treacherous, and, as such, it rendered Philosophy impossible. Kant said that the Understanding was not treacherous, but limited; it was to be trusted as far as it went, but it *could* not go far enough; it was so circumscribed that Ontology was impossible.

The reader is, we trust, now prepared to follow with interest the leading points of Kant's analysis of the mind. In giving an indication of the *result* of that analysis, before giving the analysis itself, we hope to have so far interested him that he will read the analysis with sharpened attention.

Two points must first be settled: namely, the distinction between analytic and synthetic judgments; and the distinction between *à priori* and *à posteriori* judgments. These have played a great part in modern Philosophy, and they are illustrations of the tendency (already noted in our *Prolegomena*) to confuse questions of Morphology with questions of Anatomy, questions of Metaphysics with questions of Logic. Let us follow Kant's exposition.

Analytic judgments are those which merely write out and *explain* our experience, but add nothing to our store (*Erläuterungsurtheile*); thus when we say that 'Body is extended,' or that a triangle is 'a figure with three sides,' the judgment is analytic: the attribute of extension being involved in our conception of Body, and the attribute of three-sidedness being involved in our conception of a triangle. But synthetic judgments predicate some attribute not involved in the conception of the object, and they *extend* our experience by this addition (*Erweiterungsurtheile*); as when we say that 'a straight line is the shortest path between two points,' the conception of a straight line not involving that of a shortest path; again, when we say 'all bodies are heavy,' the judgment is synthetic because the predicate 'weight' is not a mere writing out of our conception of bodies, it is something added to that conception.

*À priori* judgments are those which are not derived from experience, but belong to the native structure of the mind, which structure is one of the conditions (*Bedingungen*) of experience, rendering it possible. *À posteriori* judgments are those derived from experience: that is to say, products of the mind and external objects, the functions of these two coefficients.

A synthetic *à priori* judgment is one which experience may confirm but cannot originate, as when we say that 'a straight line is the shortest path between two points,' which is a truth independent of experience, having a necessity and universality which experience cannot bestow, for although experience may show how a straight line is in numerous cases the shortest path, it cannot show that there is absolutely nowhere a shorter path between two points. A synthetic *à posteriori* judgment is one resulting from our experience, as when we say: Gold is ductible, we must already know from experience that gold is ductible before we can predicate ductility of gold.

Such in brief is Kant's teaching. As a logical division, this of analytic and synthetic may have its uses; all well-marked distinctions, even if purely verbal, are aids to thought; but unhappily, like other aids, they become obstacles when their artificial nature is forgotten, and verbal differences are accepted as real. Such seems to me to have been the case here. Kant regards the distinction as the keystone of the arch. He admits that it can have little use elsewhere, but says that in reference to the criticism of human understanding it is indispensable.*

Logically, analytic judgments are concepts, synthetic judgments are the union of concepts. But psychologically, the concept itself is a synthesis, i.e. the *integration of perceptions*, or their combination into a whole.†

Psychologically, synthetic judgments are only analytic judgments *in the making*: they differ as a problem stated and a problem solved; as cartilage and bone. A synthetic judgment becomes analytic as soon as its elements are integrated. Thus, that 'all bodies are extended' is now an analytic judgment, the definition of body including extension. That 'all bodies are heavy' is equally analytic, equally a mere writing out of our concept of body and its attributes, equally included in the comprehensive definition of body; though it once was an extension of our experience, an addition to the concept. To the physicist, as Trendelenburg remarks, weight is as much a mark of the concept 'body,' as extension is to the mathematician.* Both extension and weight are predicates; the act of predication is the same mental process in one case as in the other. There may be some difficulty in recognising the synthetical nature of the predication where the elements have been so integrated that the proposition has become an identical one; but, let us take another example: 'Fire burns.' Is this analytic or synthetic? To us, with a large experience of fire, the proposition 'fire burns' is analytic—simply a verbal proposition: what we mean by 'fire' is a subject which among other attributes has this of burning; the burning is an integral part of our concept. But to a child, whose experience of fire is less, whose concept includes brightness and form, but not burning, the addition 'it burns' would be as much a synthesis, as the addition of weight to the concept of bodies is a synthesis.

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* 'Diese Eintheilung ist in Ansehung der Kritik des menschlichen Verstandes unentbehrlich.'—*Prolegomena*, § 3, p. 181. 'No subject,' says HAMILTON, 'in modern speculation has an exerted an intenser interest.'—REID's *Works*, p. 787.

† Compare UEBERWEG: *Logik*, § 83. HEGEL: *Encyclopädie*, § 239. TRENDELENBURG: *Logische Untersuchungen*, ii. 237 *seq.* and DELBOEUF: *Logique Scientifique*, p. 103.

Kant has himself given a similar example. 'Gold is a yellow metal,' is analytic, he says, because 'to know this, I have no need of an enlargement of my experience; my concept of gold containing the elements of its yellowness and metallic nature, I have only to analyse this concept, and need not seek further.'† In other words, an analytic judgment is the explication of a definition: it is what old logicians called an *essential*, and Locke a *verbal*, proposition. In the analysis of a whole into its parts, certain parts which had been concealed are brought to light. But this whole is itself a synthesis, and was originally put together. The metallic element was discovered in gold, and, once discovered, once put there, was for ever after kept there. The slow integration of experiences converts what was originally synthetic and inductive, into what is now analytic and deductive. The progress of science consists in the gradual integration of such experiences and the transformation of synthetic into analytic judgments, so that propositions which at first were hypothetical become at last truisms.* In the premathematical period the concept of a circle was that of a perfectly round line, or of a space bounded on all sides by a line returning on itself. No one will say that it was a mere writing out of this concept, when mathematicians discovered that every point in this line is equally distant from a point in the centre; yet this was, we see, involved in the nature of a circle, though assuredly not in the concept then formed of a circle. *Now* such a judgment is analytic. Further, when mathematicians enlarged their concept by the discovery of another property of circles, namely, that the length of their circumferences is to the length of their diameter in the approximate ratio of 3·14159 to 1, this was a synthesis which rapidly became integrated, and we now see that it is involved in the nature of a circle.

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* Trendelenburg: *Logische Untersuchungen*, ii. 240.

† *Prolegomena*, § 2, p. 178.

A judgment is *ampliative* only so long as it is hypothetical; no sooner is the proposition proved, than there is an end to all increase of knowledge in that direction. To the naturalist the proposition 'All vertebrates are endowed with mind,' is a synthetic judgment, only so long as he is in any doubt as to whether, in the concept vertebrate animal, mind is or is not an integral element of his enlarged experience. But all propositions concerning vertebrates were originally in this state. Decompose the concept, decompose the knowledge out of which that concept emerged, and you will find it a succession of synthetic judgments, which became analytic as each fresh experience was integrated. All judgment is predication, and all predication is synthesis. The predicate is an experience; its subject is also an experience.

Even in the most hypothetical judgment there is always the analytic characteristic, namely, that of its being an elucidation of some element involved in the concept. We never in the most daring flights of hypothesis affirm that vertebrates are vegetables, or that they have planes of cleavage like crystals. Why? Because 'vegetables' and 'crystals' are concepts that cannot be brought under the concept 'vertebrates'—experience and analogy give no indication of any such implication. Whereas 'mind,' or some of the marks by which mind is recognised, can be seen in some of the marks by which a vertebrate is recognised.

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* APELT says that to confound analytic with synthetic judgments is to confound a Concept with a Cognition. *Metaphysik*, p. 35. But unless concepts are innate, we may ask how was the Concept originally formed except through cognition?

Thus judgments are analytic or synthetic at different epochs.* The only tenable distinction is that between verbal and real propositions, and this was drawn by Locke with a precision which leaves little to be desired. Kant, who, as was intimated just now, gave old ideas a novelty by giving them a new terminology, and assigning them a new rank, has not added anything to Locke's chapter 'On Trifling Propositions,' though he regretted its unsystematic exposition.† Here is a passage: 'We can know the truth of two sorts of propositions with perfect certainty; the one is of those trifling propositions which have certainty in them, but it is only a verbal certainty and not instructive. And, secondly, we can know the truth, and so may be certain in propositions which affirm something of another, which is *a necessary consequence of its precise complex idea, but not contained in it*: As that the external angle of all triangles is larger than either of the opposite internal angles; which relation of the outward angle to either of the opposite internal angles making no part of the complex idea signified by the name triangle; this is a real truth, and conveys with it instructive real knowledge.'

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* The Spanish metaphysician, Sixto Serrano, holds a similar opinion. 'En rigor, toda proposicion sintetiza algo, puesto que expresa por medio de la cópula la relacion que hay entre el sugeto y el predicado, y toda proposicion analiza igualmente porque es una fórmula en que aparecen separados y distintos los mismos términos que se relacionan.' *Bosquejo de la Ciencia Viviente*, Madrid, 1867, p. 44.

† Locke: *Essay*, B. iv. c. viii. 'There can be no doubt of Kant's originality in discovering for himself this celebrated distinction. Kant was not very deeply read in previous philosophy, but indeed we may well excuse him for not seeing what escaped the terrible erudition of Sir W. Hamilton. Mr. Webb has shown very clearly that Locke in substance completely anticipated it.' Mahaffy: *note in* Fischer's *Commentary on Kant*, p. 28. A glance at the *Prolegomena*, § 3, p. 182, would have shown both these writers that Kant was fully alive to Locke's priority. It is perhaps worth remarking that Sir W. Hamilton (Reid's *Works*, p. 187) considers this 'an almost gratuitous concession,' but Sir William in writing that note had so imperfect a recollection of Kant's exposition, that he proposes to substitute the terms Explicative and Amplicative, as less ambiguous, forgetting that Kant had himself so denominated them.

Let us now pass to the still more important distinction between *à priori* and *à posteriori* judgments which assumed a new form in Kant's hands.* All cognition was held by him to be uninstructive unless it were synthetical, and unstable unless it were *à priori*, i. e. independent of Experience and the limitations of Experience. The first task of Criticism was therefore to answer this question: How are synthetic judgments *à priori* possible? Which was only a scholastic way of putting the old question: How can we have knowledge independent of Experience?

That all cognitions must be synthetical and *à priori*, Kant grounds on these propositions: 1. Unless synthetical, they are not real cognitions, they add nothing to our previous store. 2. Unless *à priori*, they cannot be universal and necessary, but only particular and contingent. 3. Unless universal and necessary, they cannot be certainly true.

A cognition is truly such when the hypothetical element is removed and the synthetical judgment has become analytical by integration. So long as any uncertainty existed, it was a problem: it is a theorem now the uncertainty is removed. Thus, that 'bodies are extended' is a cognition; the truth may have become a truism in becoming analytic, but it has not ceased to be a cognition. So much for the first of the three positions.

The second is more important, and equally fallacious. The assumption that if a truth is necessary and universal it must be *à priori*, and cannot have been reached *à posteriori*, is very general, and very false. It has been considered at length in our *Prolegomena*, and I need only recapitulate here the results of that discussion. Every truth is necessary, although every proposition is not necessarily true. Knowledge may be contingent, but truth is not. How we establish the truth of a proposition is one thing; how we affirm its necessity when established another. As soon as we see it to be true, we see its necessity. The truth that 'fire burns' is as irresistible, necessary, and universal, as the truth, 'the angles of a right-angled triangle are equal to two right angles,' or that 2+2=4.

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* Diese Frage bildet den eigentlichen Cardinal- und Angelpunkt von Kant's Kritik . . . . von der Antwort auf diese Frage hängt das Schicksal der Metaphysik ab.'—Apelt: *Metaphysik*, p. 40.

Is there any mark by which we can recognise a necessary proposition beyond that which discloses the identity of its terms? Waiving for the present all perturbations, and assuming that we speak only of true propositions, what, I ask, is there to distinguish one truth as necessary from another as contingent? Every proposition affirms that *a thing is what it is*; the truth lies in affirming this much of it and no more; and the Principle of Contradiction insists on our recognising that the thing *cannot be what it is and other than what it is.* Now, 'universality means that the thing in question, whatever it is, never is otherwise; necessity means that we cannot conceive it otherwise.'* And, as I have abundantly shown, whenever men speak of a contingent truth, they *pre-suppose some variation in the terms of the proposition*, whereby the thing will no longer be what it now is. Strictly considered, the distinction between necessary and contingent should apply only to the abstract and the concrete, or to theory and practice. As Comte says, 'Généralisant par abstraction, la théorie isole chaque phénomène de tous ceux dont il est réellement accompagné, *pour le réunir aux effets semblables que comportent tous les autres cas, même hypothétiques.* En sens inverse la pratique spécifie toute action d'après l'ensemble des circonstances capables de l'affecter.' †

Kuno Fischer says, 'The character of universality declares that the matter is so in all cases. The character of necessity declares that the contradictory of the assertion is impossible.' What is this but saying that a necessary and universal proposition is one of which the terms are identical? 'But,' he proceeds, 'human experience can only know *individual* cases. It can never comprehend all the cases; nay, now it is perfectly impossible to know that the known cases are all the possible ones. Even with the greatest number of cases which a rich and extended experience can furnish, its judgments can only have comparative not absolute universality. In other words, universality and necessity can *never* be given by experience. That which is given by experience *only* I receive from without; it is in the language of philosophy, a datum *à posteriori*, because it *follows from perception.* That which is *not* given by experience can never follow from experience, and must, if it exist at all, exist independently *before* all experience; it is a datum *à priori.*' *

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* Hodgson: *Time and Space*, 1865, p. 10.

† Comte: *Synthèse Subjective*, p. 8.

How is this distinction warranted? When I say 'fire burns,' I assert universality and necessity as emphatically as when I say, 'the angles of a right-angled triangle are equal to two right angles;' I am simply asserting an identical proposition. I have not, nor can I ever have, experience of fire in all its possible manifestations; nor have I experience of all possible triangles. But my assertion when made universal does not thereby lose the identity of its terms; the terms remain *unaltered*, and the proposition, in becoming universal, is unchanged. A is A; it is so now; it will be so for ever. In becoming A B, and subsequently disappearing, leaving B only, the identity of the proposition ceases. If a fire exist which is not hot and does not burn, *that* is not the fire of which my proposition speaks. If a right-angled triangle exist, the angles of which are unequal to its two right angles (and one must exist if my proposition is to be impugned), *that* is not the triangle of which I speak. Thus, the terms of the proposition being altered, the conclusion is altered likewise.

There is this source of fallacy respecting propositions of arithmetic or geometry, that their terms being rigorously defined, and the relations being simple, there is no possibility of a change not at once destroying the intuition. I cannot imagine the triangle to be elsewhere composed of other angles than such as are equal to two right angles, because this is an accurate description of my concept of the triangle. Whereas an object like 'fire' being complex in its terms and relations, some of these may remain while others are changed, and I shall still continue to think of it as 'fire.' But although under conceivable conditions the object 'fire' may so far have been changed as not to burn, this in no way affects the universality and necessity of the proposition 'fire burns,' it only leads to the announcement of *another* proposition, namely, 'under certain conditions fire does not burn;' which, if true, is equally necessary. The contingency is not a matter of judgment, but a matter of fact; and the matter of fact reduces itself to this, that the object 'fire' in the one proposition is not the same as in the other. But if it is allowable to change the terms thus, we may make geometrical propositions equally contingent. In a word, the transformation of a particular to an universal judgment is simply its unconditional generalization; just as we produce a straight line indefinitely so may we enlarge a judgment indefinitely.

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* Kuno Fischer: *Commentary*, p. 13.

Am I then justified in affirming that 'all baboons have blue noses?' No; only in affirming that 'all blue-nosed baboons have blue noses.' The first is an induction which may be false because it *generalizes conditions*; the second is a judgment which must be true because it is an *unconditional generalization*; and here, as I have shown in the *Prolegomena*, lies the true distinction between contingent and necessary truths. The truths of Number and Geometry have a character of peculiar necessity which cannot belong to physical truths, simply because magnitudes are abstracted from all conditions, and their generalization is independent of all possible interference. Kant says, Experience can only teach us that a thing is, and what it is, but never that it is necessarily so, and cannot be otherwise.* This is inaccurate. Experience cannot tell us that the conditions which *make* the thing what it now is, will not elsewhere be changed and make it different, because Experience cannot embrace all possible future conditions; but it can and does tell us, that so long as the group of conditions represented by the thing remains what it is, the thing will be what it is.

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* *Prolegomena*: Zweiter Theil, § 14, p. 212. 'Nun lehrt mich die Erfahrung zwar was da sei, und wie es sei, niemals aber, dass es nothwendiger Weise so und nicht anders sein müsse.'

Kant errs on this point in company with all philosophers who have imagined a distinction to exist, which has no psychological foundation, between general and particular judgments. Sir W. Hamilton affirms that the observation of particular cases of causality could never 'have engendered not only the strong but the *irresistible* conviction that *every* event *must* have its causes. Each of these observations is contingent'—[not at all, each is necessary, each carries with it an irresistible conviction of *its* existence]—'and any number of observed contingencies will never impose upon us the consciousness of necessity, that is, the consciousness of an inability to think the opposite. This theory is thus logically absurd. For it would infer as a conclusion the universal necessity of the causal judgment from a certain number of actual consecutions; that is, it would collect that *all must be* because *some are*.'* This is a typical specimen of the logical legerdemain in which metaphysicians delight.

It first assumes that every observation of sequence is contingent; a glaring confusion of ideas: there is nothing whatever contingent in the fact that we observe the sequence; *that* is necessary, and we are incapable of thinking it otherwise, incapable of believing that we have not the feeling. It next assumes, that no number of particulars can impose a general conclusion; but how are general conclusions established except from the particulars? How do we get the idea of uniformity except from the indefinite prolongation of the special cases—a prolongation which is forced upon us in the absence of any contradictory experiences, i.e. any change in the condition which would establish diversity?

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* HAMILTON: *Discussions*, p. 588.

The conclusion is not, therefore, *all must be* because *some are*; but *all must be* because *all are*: no sooner does experience correct the natural tendency to confound an indefinite prolongation with an induction, by showing that what is true in some conditions is not true in others, than the terms of the proposition are changed. If—as is undeniable—the particular experience of causation is necessary, and not contingent, inasmuch as we cannot think that the opposite is true now in this particular case; there is equal necessity in generalizing it, and affirming that in *all exactly similar cases* the same will hold. Hamilton's mistake is the one always committed, of silently changing the terms, and converting a prolongation into an induction; hence he says, in continuation, 'logically absurd, it is also psychologically false. For we find no difficulty in conceiving the *converse* of one or all observed consecutions; and yet the causal judgment which, ex hypothesi, is only the result of these observations, we cannot possibly think as possibly unreal.' Now, in what sense can we be said to conceive the converse of each observed fact? We cannot conceive that we have not observed it, we cannot conceive that this A is B. But we, aware of our liability to error, conscious that the ultimate nature of things is hidden from us, can conceive that we have falsely observed (and hence the contingency of our judgment), or we can conceive that—under different conditions—the observations might be different; we can conceive that a stone would rise in the air, although we have always observed it to fall. Does this disturb the legitimacy of our generalization? Not in the least. In the first place the converse of the particular judgment is only reached by an alteration of the terms; the stone rises instead of falling, because the air is heavier and pushes it upward like smoke. In the next place, the 'causal judgment' is that 'every event must have *a* cause.' This is a different judgment. It is an unconditional generalization of the proposition that an event has an antecedent. Whether originally reached by an induction, from which the various conditions have subsequently been eliminated, is a question which may be debated; but however reached, the necessity of the causal judgment in general is not greater than the particular judgment, 'this event has a cause.'

It is needless to pursue this argument here. Enough has been said to show that the position relied on by Kant (and all other philosophers) respecting the peculiar validity assigned to necessary truths as being *à priori*, and independent of experience, is baseless. Kant is forced to hold that the demonstration of a theorem is only true in the particular instance, and to make it universally true there is need of an *à priori* intuition. But, as an acute writer well remarks, 'If a conclusion from a single instance in empirical intuition can possess only limited validity, how can a conclusion from a single instance in pure intuition possess unlimited validity? In either case the universal is deduced from the particular; what is the difference in the two cases? It does not follow that the theorem is true of all triangles possible to pure intuition simply because it is true of one, unless it equally follows that the theorem is true of all triangles possible to empirical intuition because found true of one triangle.'* Kant would have answered this with his constant assumption of the contingency of empirical and the necessity of pure intuition. It is this assumption against which the student is warned, if he would not be led astray in metaphysical swamps.

In the first edition of the *Kritik* we read: 'It is a very remarkable fact that, even with our experiences, cognitions are mixed up which must have their origin *à priori*, and perhaps only sense to supply a connexion for our representations of Sense. For even if we remove from our experiences all that belongs to sense, there still remain certain primitive concepts and judgments generated from them which must have originated *à priori* quite independent of experience, because we can, or at least we think we can, assert more of the objects of sense than mere experience would teach us.'

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* *North American Review*, July 1864, art. on *The Philosophy of Space and Time.*

On this it may be remarked that Kant unwarrantably limits Experience to Sense, and thus obscures the whole subject; although his own definition of Experience, 'a continuous synthesis of perceptions,'* implies the existence of an element over and above Sense, namely, that which *combines*; and he thereby implies, in *à posteriori* and empirical cognitions, the operation of that very factor which he declares to be peculiar to *à priori* cognitions. What he means is probably, that even in ordinary empirical knowledge there is the necessary co-operation of certain Laws of Thought, the original data of the mind, which, because they are original data, cannot be affiliated on Experience, and must therefore be *à priori*. But this only cuts the ground from under him. It proves that in *every* act of judgment the mind is moved by its own Laws, and that these belong to it, and not to the objects of knowledge. In every act? Then in *à posteriori* no less than in *à priori* judgments; consequently the famous distinction between these acts is shown to be arbitrary, and to carry none of the important consequences he deduces respecting the validity of *à priori* knowledge. It proves that *all* knowledge must have an *à priori* element—namely, the capacity of the knowing mind; and an *à posteriori* element—namely, the object given in experience. Knowledge is a function of the two; but the coefficients are not separable in any one particular act. The capacity has no value until it is realized; the law has no existence until it is in act, and in act it is identified with the object.†

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* *Prolegomena*, § 6, 188. Erfahrung ist selbst nichts Anderes als eine continuirliche Zusammenfügung (Synthesis) der Wahrnehmungen. In a note to § 22, p. 223 he seems to have been aware of the contradiction, and tries to evade it, not, I think, successfully.

† I shall presently recur to the impossibility of separating the two coefficients; meanwhile here is a passage from the *North American Review* advocating a view similar to that in the text. 'The laws of Knowledge are *à priori* and absolutely independent of Experience; but knowledge itself, being from its nature the knowledge of objects and of their relations, is not possible until the presentation of objects, and is consequently so far dependent on experience. Laws are only known in phenomena; phenomena are only known according to laws; hence every act of knowledge involves both an object of the act and laws which regulate the act.'

Recurring for a moment to the passage last quoted from Kant, let attention be drawn to the 'cognitions' which are said to be mingled with our experiences; inasmuch as he repudiated Innate Ideas, and inasmuch as his Forms of Thought are only determining conditions of Knowledge, not the Knowledge itself, this confusion of the *conditions* with the *result*—of Forms of Cognition with Cognitions—should have been sedulously guarded against. In his system, however, the confusion is an integral part; many of his deductions would be impossible if the conditions alone were assumed, and not the cognitions which result.

I have interrupted the exposition in order to discuss these topics because of their fundamental importance. If I am correct in concluding that the distinction between *à priori* and *à posteriori* judgments, like that between analytic and synthetic judgments, is a logical distinction without psychological validity, one of the pillars of the Critical Philosophy * is undermined. Kuno Fischer has traced the history of Kant's opinions, and regards his discovery of the *à priori* nature of synthetical judgments as the decisive step to which all previous advances tended; 'by this step he separated himself from Hume, and overthrew scepticism.'

The famous question: How are synthetic judgments *à priori* possible? was a scholastic form of the old question: How can we have any knowledge independent of Experience? Kant answers it, not by assuming the existence of Innate Ideas, but as Leibnitz did, by assuming the existence of certain Forms of Thought—certain native conditions which render Experience possible, and which must be *à priori*. He gave a profound impulse to Philosophy by his mode of elucidating these Forms; but the very impetus of the movement carried men away from the real path of research, namely, an objective investigation of the psychological mechanism as dependent on organic conditions.

His object was to give a theory of all the pure elements, *à priori*, which enter into knowledge as distinguished from the *à posteriori* elements. He advances four fundamental propositions:

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* Compare APELT: *Metaphysik*, pp. 41–50.

1. That Experience does not furnish the whole of our knowledge;

2. That what it does furnish has the character of contingency and variability;

3. That the mind also furnishes an element, which element is an inseparable condition of all knowledge; without it knowledge could not be;

4. That this element has the character of universality and necessity;

5. And that the principle of all certitude is precisely this universality and necessity.

He set himself to examine the nature of the mind, and to trace the distinctive characters of each element of knowledge, i.e. the objective and the subjective. Instead of saying, with the Sensational School, All our knowledge is derived from the senses, Kant said, *Half* of all our knowledge is derived from the senses: and the half which has another origin is *indissolubly bound up with the former half*. Thus, instead of saying with the Cartesians, that, besides the ideas acquired through the sense, we have also certain ideas which are innate, and irrespective of sense; Kant said *all* our ideas have a double origin, and this twofold co-operation of object and subject is *indispensable* to all knowledge.

The *Critique of the Pure Reason* is an examination of the mind, with a view to detect its *à priori* principles. He calls these *pure* because they are *à priori*, because they are above and beyond experience. Having demonstrated that the mind has *some* pure principles—has some ideas which were never given in experience, and must therefore be *à priori*—he was led to inquire how many the mind possessed. He does not trouble himself with investigating the nature of perception (had he done so he might have seen the error of his analysis); he contents himself with the fact that we have sensations, and with the fact that we have ideas whose origin is not sensuous.

The Non-ego and the Ego, the objective world and the subjective mind, being placed face to face, the two co-operate to produce knowledge. We are however here only concerned with the subject. What do we discover in it? First, a Sensibility—a power of being affected by objects; this is what Kant calls the *Receptivity of the mind*: it is entirely passive. By it the representations of objects (*Vorstellungen*) are received. Secondly, an Understanding (*Verstand*)—a faculty of knowing objects by means of the representations furnished by our Sensibility; this is an *active* faculty; in antithesis to Sensibility, it is a *Spontaneity.*

But our Sensibility, although passive, has its laws or conditions; and, to discover these conditions, we must separate that which is diverse and multiple in our sensations from that which remains invariably the same. The objects are numerous and various; the subject remains invariable. Kant calls the multiple and diverse element by the name of *material;* the invariable element by the name of *form.* If therefore we would discover the primary conditions of our Sensibility, we must discover the invariable elements in all sensations.

There are two invariable elements—*Space* and *Time.* They are the forms of our Sensibility. Space is the form of our Sensibility, as external; Time the form both as internal and external.

Analyze sensations of external things as you will, you can never divest them of the form of Space. You cannot conceive bodies without Space; but you can conceive Space without bodies. If all matter were annihilated, you must still conceive Space to exist. Space therefore is the indispensable condition of sensation: the form of external Sensibility. It is not given in the materials of sensation; since you may conceive the objects annihilated, but cannot conceive the annihilation of Space. Not being given in the material, it must therefore constitute the form.

Similar reasoning proves that Time is also the form of our Sensibility, considered both as internal and as external. We cannot conceive things as existing, except as existing in Time;

but we can conceive Time as existing, though all things were annihilated. Things subjected to our Sensibility are subjected to it in *succession*; that is the form of our Sensibility.

Such then are the two indispensable conditions of all sensation—the two forms with which *we* invest all the varied materials presented to us. It is evident that these two ideas of Space and Time cannot have been given in the materials, consequently are not deducible from experience; *ergo*, they are *à priori*, or, as Kant calls them, *pure intuitions*.

The forms of Sensibility being those of Space and Time, we must pass onwards to the higher operations of the mind. The function of the Understanding is to judge. It is eminently an active faculty; and by it the percepts furnished through our sensibility are elevated into concepts (*Begriffe*). If we had only Sensibility, we should have sensations, but no knowledge. It is to the Understanding that we are indebted for knowledge. And how are we indebted to it? Thus: the variety of our sensations is reduced to unity—they are linked together and made to interpret each other by the Understanding. A sensation in itself can be nothing but a sensation; many sensations can be nothing but many sensations, they can never alone constitute concepts. But one sensation linked to another by some connecting faculty—the diversity of many sensations reduced to unity—the resemblances, existing amidst the diversity, detected and united together—is the process of forming a concept, and this is the process of the Understanding, by means of Imagination, Memory, and Consciousness.

Our senses, in contact with the external world, are affected by objects in a certain determinate manner. The result Kant calls a representation (*Vorstellung*) in reference to the object represented; an intuition (*Anschauung*) in reference to the affection itself. These intuitions are moulded by the Understanding into concepts; the sensation is converted into a thought.

The Understanding is related to Sensibility in the same way as Sensibility is related to external things. It imposes certain forms on the materials furnished it by Sensibility, in the same way as Sensibility imposed the forms of space and time upon objects presented to it. These forms of the Understanding are the laws of its operation.

To discover these forms we must ask ourselves, What is the function of the Understanding?—Judgment. How many classes of judgments are there? In other words, What are the invariable conditions of every possible judgment?—They are four: Quantity, Quality, Relation, Modality. Under one of these heads every judgment may be classed.

A subdivision of each of these classes follows:—1. In judging of anything under the form of *Quantity*, we judge of it as unity or as plurality; or, uniting these two, we judge of it as totality. 2. So of *Quality*: it may be reality, negation, or limitation. 3. *Relation* may be that of substance and accident, cause and effect, or action and reaction. 4. *Modality* may be that of possibility, existence, or necessity.

In those Categories* Kant finds the *pure forms* of the Understanding. They render Thought possible; they are the invariable conditions of all conception; they are the investitures bestowed by the Understanding on the materials furnished by Sense.

By the Categories, he declares he has answered the second half of the question, How are synthetic judgments, *à priori*, possible? The synthetic judgments of the Categories are all *à priori*.

But we have not yet exhausted the faculties of the mind. Sensibility has given us intuitions, Understanding has given us concepts, but there is still another faculty—the crowning faculty of Reason (*Vernunft*), the pure Forms of which we have to seek.

Understanding is defined, the faculty of judging (*Vermögen der Urtheile*); Reason is the faculty of ratiocination—of drawing conclusions from given premises (*Vermögen der*

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* On KANT's use of the term categories, see HAMILTON: *Logic*, i. 197–8. On the subject generally, comp. KANT: *Prolegomena*, iii. p. 210; *Anfangsgründe der Naturwissenschaft*, preface, pp. xvi. xviii.; and APELT: *Metaphysik*, p. 132. Then read the exposition in the *Kritik*.

*Schlüsse*). Reason reduces the variety of conceptions to their utmost unity. It proceeds from generality to generality till it reaches the *unconditional*. Every concept must be reduced to some general idea, that idea again reduced to some still more general idea, and so on till we arrive at an ultimate and unconditional principle, such as God.

Reason not only reduces particulars to a general, it also deduces the particular from the general: thus, when I say, 'Peter is mortal,' I deduce this particular proposition from the general proposition, 'All men are mortal;' and this deduction is evidently independent of experience, since Peter being now alive, I can have no experience to the contrary. These two processes of reducing a particular to some general, and of deducing some particular from a general, constitute ratiocination.

Reason has three pure forms; or, as Kant calls them, borrowing the term from Plato, *Ideas*.* These are wholly independent of experience; they are above Sensibility—above the Understanding; their domain is Reason, their function that of giving unity and coherence to our conceptions.

The Understanding can frame certain general concepts, such as man, animal, tree; but these general concepts themselves are subordinate to a still more general Idea, embracing all these general concepts in the same way as the concept of man embraces several particulars of bone, blood, muscle, etc. This Idea is that of the Universe.

In the same way all the modifications of the thinking being—all the sensations, thoughts, and passions—require to be embraced in some general Idea, as the ultimate ground and possibility for these modifications, as the noumenon of these phenomena. This Idea is that of an *ego*—of a personality—of a Soul.

Having thus reduced all the varieties of the *ego* to an unconditional unity, viz. Soul, and having also reduced all the varieties of the *non-ego* to an unconditional unity, viz. the Universe, his task would seem completed; yet, on looking deeper, he finds that these two Ideas presuppose a third—a unity still higher, the source of both the world and of the *ego*—viz. God.

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* Compare TRENDELENBURG: *Logische Untersuchungen*, ii. 473.

God, the Soul, and the Universe are therefore the three Ideas of Reason, the laws of its operation, the *pure forms* of its existence. They are to Reason what Space and Time are to Sensibility, and what the categories are to Understanding.

But these Ideas are simply *regulative*: they operate on concepts as the Understanding operates upon sensations; they are discursive, not intuitive; they are never face to face with their objects: hence Reason is powerless when employed on matters beyond the sphere of Understanding. If it attempts to operate beyond its sphere, it can draw nothing but false, deceptive conclusions—if it attempts to solve the question raised respecting God and the Universe, it falls into endless contradictions.

Respecting the illusory nature of Reason, which is often confounded with its delusory nature, I cannot do better than quote Mr. Bolton's correction* of Sir W. Hamilton, who here, as elsewhere, displays a singular misconception of Kant:

'Kant teaches that there is a natural temptation to employ the ideas of Reason illegitimately, owing to a certain natural illusion, termed by him *transcendental illusion*, which disposes us to believe that these ideas, whose right use is purely immanent, can enable us to extend our cognitions beyond the limits of experience. Critical examination shows us that this appearance is illusory, and prevents us from being deceived by it; yet though *delusion* is thus prevented, *illusion* still remains. As examples of illusion thus existing without delusion, Kant instances the appearance of the sea, which seems to be higher at the horizon than near the shore, though we know this is not the case; and again the appearance of the moon, which seems larger near the horizon than near the zenith, though we know both by measurement and by calculation that the appearance in question is illusory.

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* BOLTON: *Inquisitio Philosophica: an Examination of the Principles of Kant and Hamilton*, 1866, pp. 109 *sq.* Compare also Mr. MAHAFFY's Introduction to KUNO FISCHER, p. lxiv.

'These views are expressed by Kant in a great number of passages, of which the following may be quoted:

'The result of all the dialectical attempts of pure Reason not only confirms the truth of what we have already proved in our transcendental analytic, namely, that all inferences which would lead us beyond the limits of experience are fallacious and groundless, but it at the same time teaches us this important lesson, that human reason has a natural inclination to overstep these limits. . . . .

'Whatever is grounded in the nature of our powers will be found to be in harmony with the final purpose and proper employment of those powers, when once we have discovered their true direction and aim. We are entitled, therefore, to suppose that there exists a mode of employing transcendental ideas which is proper and *immanent*; although, when we mistake their meaning, and regard them as conceptions of actual things, their mode of application is *transcendent* and delusive. . . . . Thus all errors of misapplication are to be ascribed to defects of judgment, and *not to understanding or Reason*.

'I accordingly maintain that transcendental ideas can never be employed as constitutive ideas, that they cannot be conceptions of objects, and that, when thus considered, they assume a fallacious and dialectical character. But, on the other hand, they are capable of an admirable and indispensably necessary application to objects as regulative ideas, directing the understanding to a certain aim, the guiding lines towards which all its lines follow, and in which they all meet in one point. This point, though a mere idea (focus imaginarius) . . . . serves notwithstanding to give to these conceptions the greatest possible unity combined with the greatest possible extension. Hence arises the natural illusion which induces us to believe that these lines proceed from an object which lies out of the sphere of empirical cognition, just as objects reflected in a mirror appear to be behind it. But this illusion, *which we may hinder from imposing upon us*, is necessary and unavoidable if we desire to see, not only those objects which lie before us, but those which are at a great distance behind us. . . . If we review our cognitions in their entire extent, we shall find that the peculiar business of Reason is to arrange them into a *system*, that is to say, to give them connection according to a principle.

'Having thus shown the difference between the illegitimate and the legitimate use of Reason—the former "transcendent," seeking to transcend the limits of experience; the latter "regulative," or "immanent," not overstepping those limits, but seeking to systematise our empirical cognitions—Kant devotes the concluding portion of his work, the Methodenlehre, or doctrine of Method, to an examination of the principles which guide Reason in its *legitimate* use.

'Such is the real nature of Kant's doctrine; and it is important to set it clearly forth, inasmuch as Sir W. Hamilton has wholly misrepresented it. He represents Kant as teaching that Reason, when *legitimately* exercised, is essentially *delusive*; whence, as he observes, the most pervading scepticism inevitably results; and he represents himself as correcting this erroneous doctrine, by discovering and showing that the antinomies expounded by Kant result only from an *illegitimate* use of Reason.'

The following are passages from Hamilton's writings setting forth this view. Speaking of Kant, Hamilton says:

'He endeavoured to evince that pure Reason, that Intelligence, is naturally, is necessarily repugnant with itself, and that speculation ends in a series of insoluble antilogies. In its highest potence, in its very essence, thought is thus infected with contradiction, and the worst and most pervading scepticism is the melancholy result. If I have done anything meritorious in philosophy, it is in the attempt to explain the phenomena of these contradictions; in showing that they arise only when intelligence transcends the limits to which its legitimate exercise is restricted; and that within those bounds (the conditioned) natural thought is neither fallible nor mendacious—

'Neque decipitur, nec decipit umquam.'

If this view be correct, Kant's antinomies, with their consequent scepticism, are solved; and the human mind, however weak, is shown not to be the work of a treacherous Creator.' *

In another passage concerning Kant, after stating his doctrine relative to Phenomena and Noumena, Hamilton says:

'In accordance with this doctrine, he explicitly declares Reason (or Intelligence) to be essentially and of its own nature delusive; and thus more overtly than the others he supersedes (what constitutes the fundamental principle and affords the differential peculiarity of the doctrine of the conditioned) the distinction between Intelligence *within* its legitimate sphere of operation, impeccable, and Intelligence *beyond* that sphere, affording (by abuse) the occasions of error.' †

Mr. Bolton, after pointing out Hamilton's misrepresentations, adds:

'Thus the explanation of the antinomies put forward by Hamilton as a discovery of his own, his most meritorious philosophical achievement, is no other than the explanation which Kant himself gives, not once merely, but in a great number of passages.

'It appears, therefore, that Hamilton first imputes to Kant a doctrine which Kant strongly condemns; next puts forward the doctrine which Kant clearly and repeatedly asserts, and represents this as a discovery of his own, a valuable improvement on Kant's teaching. And he tells us that if he has done anything meritorious in philosophy, it is in making this discovery!'

Returning now to the exposition of Kant's doctrine, we are landed in the conclusion that knowledge is, in its very constitution, purely subjective, *ergo* relative. To attempt to transcend the sphere of the subjective is vain and hopeless; nor is it wise to deplore that we are 'cabin'd,' cribb'd, confined' within that sphere from which we never can escape. As well might the bird, when feeling the resistance of the air, wish that it were *in vacuo*, thinking that there it might fly with perfect ease. Let us therefore content ourselves with our own kingdom, instead of crossing perilous seas in search of kingdoms inaccessible to man. Let us learn our weakness.*

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* *Lectures*, vol. i. p. 402. † *Discussions*, p. 633.

FIRST RESULT.—A knowledge of things *per se* (*Dinge an sich*) is impossible, so long as knowledge remains composed as at present; consequently Ontology, as a science, is impossible.

But, it may be asked, if we never knew noumena (*Dinge an sich*), how do we know that they exist? The answer is simple: Their existence is a necessary postulate. Although we can only know the appearances of things, we are forced to conclude that the things exist. Thus, in the case of a rainbow, we discover that it is only the appearance of certain drops of water: these drops of water again, although owing their shape, colour, etc., to our Sensibility, nevertheless exist. They do not exist *as* drops of water, because drops of water are but phenomena; but there is an unknown something which, when affecting our Sensibility, appears to us as drops of water. Of this unknown something we can affirm nothing, except that it necessarily exists because it affects us. We are conscious of being affected. We are conscious also that that which affects us must be something different from ourselves. This the law of causation reveals to us.

A phenomenon, inasmuch as it is an appearance, presupposes a noumenon—a thing *which appears*,—but this noumenon, which is a necessary postulate, is only a negation to us. It can never be positively known; it can only be known under the conditions of sense and understanding, *ergo* as a phenomenon.

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* Compare the fine passage at the close of the Introduction to the *Kritik*.

**Second Result.**—The existence of an external world is a necessary postulate, but its existence is only logically affirmed.

From the foregoing it appears that we are unable to know anything respecting things *per se*; consequently we can never predicate of our knowledge that it has objective truth.

But our knowledge being purely subjective and relative, can we have no certainty?—are we to embrace scepticism? No.

**Third Result.**—Our knowledge, though relative, is *certain*. We have ideas * independent of experience; and these ideas have the character of universality and necessity. Although we are not entitled to conclude that our subjective knowledge is completely true as an expression of the objective fact, yet we are forced to conclude that within its own sphere it is true.

**Fourth Result.**—The veracity of consciousness is established.

**Fifth Result.**—With the veracity of consciousness, is established the certainty of morals.

It is here we see the importance of Kant's analysis of the mind. Those who reproach him with having ended, like Hume, in scepticism, can only have attended to his *Critique of the Pure Reason*, which certainly does, as we said before, furnish a scientific basis for scepticism. It proves that our knowledge is relative; that we cannot assume things external to us to be as we conceive them: in a word, that Ontology is impossible.

So far Kant goes with Hume. This is the goal they both attain. This is the limit they agree to set to the powers of the mind. But the different views they took of the nature of mind led to the difference we before noted respecting the certainty of knowledge. Kant having shown that consciousness, as far as it extended, was veracious; and having shown that in consciousness certain elements were given which were not derived from experience, but which were necessarily *true*; it followed that whatever was found in consciousness independent of experience, was to be trusted without dispute.

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* Here we see the effect of confusing cognitions with conditions of cognition (noted p. 461). It is not ideas that are independent of experience, but the organic conditions on which ideas depend.

If in consciousness I find the ideas of God, and Virtue, I cannot escape believing in God, and Virtue. This belief of mine is, I admit, practical, not theoretical; it is founded on a *certainty*, not on a *demonstration*; it is an ultimate fact, from which I cannot escape—it is not a conclusion deduced by reason.

The attempt to demonstrate the existence of God is an impossible attempt. Reason is utterly incompetent to the task. The attempt to penetrate the essence of things—to know things *per se*—to know noumena—is also an impossible attempt. And yet that God exists, that the World exists, are irresistible convictions.

There is another certitude, therefore, besides that derived from demonstration, and this is moral certitude, which is grounded upon belief. I cannot say, 'it is morally certain that God exists,' but I must say, 'I am morally certain that God exists.'

Here then is the basis for a *Critique of the Practical Reason*, an investigation into the Reason, no longer as purely theoretical, but as practical. Man is a being who acts as well as knows. This activity must have some principle, and that principle is *freedom of will*.

As in the theoretical part of Kant's system we saw the Supersensual and Unconditioned presupposed as existent (under the name of things *per se*), but not susceptible of being known or specified; so in this practical part of the system we find the principle of Freedom altogether abstract and indeterminate. It realizes itself in acts.

In the very constitution of his conscience, man discovers the existence of certain rules which he is imperatively forced to impose upon his actions; in the same way as he is forced by the constitution of his reason to impose certain laws upon the materials furnished him from without. These moral laws have likewise the character of universality and necessity. The idea of virtue never could be acquired in experience, since all we know of virtuous actions falls short of this ideal which we are compelled to uphold as a type. The unalterable idea of justice is likewise found, *à priori*, in the conscience of men. This indeed has been denied by some philosophers; but all *à priori* truths have been denied by them. They cite the cruel customs of some savage races as proofs that the idea of justice is not universal.* Thus, some tribes are known to kill their old men when grown too feeble; and they test their strength by making these old men hold on to the branch of a tree, which is violently shaken, and those that fall are pronounced too weak to live. But even here, in spite of the atrocity, we see the fundamental ideas of justice. Why should they not abandon these aged men to all the horrors of famine and disease? and why put them to a test? Look where you will, the varied customs of the various nations peopling the earth will show you different notions of what is just and what is unjust; but the *à priori* idea of justice—the moral law from which no conscience can be free—*that* you will find omnipresent.

## § III. Criticism of the Kritik.

Brief, and I fear painfully dry, as the foregoing exposition has been, the student may accept it as a general indication, sufficient for the purposes of this History, of the line of thought adopted by Kant. To complete it, we must consider the cardinal positions involved. This has already been done with respect to analytic and synthetic judgments, and the all-important assumption of necessity being unattainable except *à priori*. What now remains is to consider the general principle of Forms of Thought, and its special example Space and Time—the distinction between Objective and Subjective elements in thought—and the solution of the Idealistic and Sceptical questions.

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* Kant alludes to Locke.

*Space and Time.* Although the spontaneity of Mind was never *wholly* denied, even by those of the Sensational School who regarded Mind as a product of the Senses, nevertheless, opinions on this important point were singularly vague. Locke, as we have seen, presupposed certain native Faculties. Condillac presupposed certain native Capacities. Cabanis and Tracy presupposed certain Laws of Sensibility. All the schools presupposed certain laws of mental combination. These constituted the subjective conditions of Experience; whatever spontaneity could be attributed to the Mind was assigned to them. But no one accurately defined them. It was Kant's immense merit to have seen clearly the need of accurately determining what these subjective conditions were. He was the first who attempted a clear exposition of the subjective and objective elements in Thought. The attempt produced an epoch. Unhappily, having approached a psychological problem from the wrong side, and employing the Metaphysical Method of subjective analysis where the Biological Method of objective analysis was equally indispensable, he not only failed to discover what were the conditions of Sensibility and the Laws of Thought, but by the very potency of his genius retarded progress in that direction.

His initial mistake, almost inevitable on the Method he pursued, is that of transporting into Psychology the old Aristotelian error of Matter and Form as separable elements in reality because they are separable in abstraction. Hence the Forms of Thought became for him ready-made factors, anterior to and independent of Experience. Had he profoundly considered the Aristotelian distinction, he must have had his eyes opened to the conclusion that the Forms of Thought should be sought either physiologically, i.e. in the organic conditions, or psychologically, i.e. in the evolution of Thought. The fact that we think at all is assuredly determined by our being so organised that thought is the activity of the organs; this organization is therefore *à priori*, i.e. anterior to any experience for it. Now physiological, and psychological, analysis disclose that we are forced to think as *successive* what in nature is *simultaneous*; that deep down in the very constitution of consciousness lies the indispensable condition of *change*; that inwoven with all psychical experience there is the unalterable presence of the action of *judgment*—the union of a predicate with a subject; these, and several other conditions of Thought, which would take too long to expound here, must have disclosed themselves to him; but how would they have presented themselves? as *ready-made* Forms (*fertige Formen*), or as Forms *in the making*? as pre-existent elements, or as evolved results? The Aristotelians, and with them Kant, confounding the potential with the actual, the conditions with the results, would answer this question plainly in favour of the first alternative. Because the form of the oak is evolved from the acorn, they would declare the form to pre-exist in the acorn.* We, knowing that under suitable conditions the acorn will develope into the oak, and, if it develope at all, will assume the Form of an oak, and no other, are allowed to say without danger that the stem, branches, and foliage are organic Forms potentially existing in the acorn. But a scientific Botany is not content with this. Nor will it permit us to say that stem, branches, and foliage are ready made in the acorn, prior to all those influences of heat, moisture, air, and manure, which will render possible their evolution. In like manner a scientific Psychology refuses to accept the evolved results of Experience as *à priori* conditions of Experience; refuses to accept the Forms *into* which Thought necessarily developes as the pre-existing and perfected Forms *through* which it is determined.

That Kant did regard the Forms as wholly independent of organic conditions, is certain. He was not satisfied with assuming the existence of original aptitudes out of which the Forms might grow. 'It is quite possible,' he says, 'that some one may propose a sort of preformation system of Pure Reason, in which the Categories are neither self-conceived, *à priori* first principles of cognition, nor derived from experience, but are merely aptitudes for thought implanted in us contemporaneously with our existence.' He rejects this suggestion on the ground that 'the Categories would thereby lose their character of objective necessity. Nor would there be wanting persons to deny the subjective necessity of the Categories, though they must feel it. Certainly we could never dispute with any one about that which merely depended on the manner in which he was organized.'

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* On this fallacy see what is said in the *Prolegomena* to this History, § 51.

Why not? Can we have any better security? And does not Kant himself reduce all certainty to this subjective ground, denying that we can have objective certainty?

By thus refusing to consider the Forms of Thought as results of the organism, he shut himself out from the possibility of discovering them. A little attention to biological data would have shown him that his enumeration of the Forms was incomplete, and that his conception of them as ready-made was false. The Forms he enumerates are too few to express the subjective conditions. He omits Pleasure and Pain, for example, which are inseparable elements of all Sensation, determining all Action. He says nothing of the various Senses, and their conditions; although obviously the cause why vibrations of a given rapidity only produce the sensation of light, and other vibrations only the sensation of heat, lies in the *à priori* organization of the retina and the skin nerves. He would not deny that Light, Heat, and Sound were Forms of Sensibility in which men clothe the *Ding an sich*; just as Space and Time are Forms in which we clothe the *Ding an sich*. Nay, seeing that he used all his ingenuity to show that the Categories of the Understanding played the same part as the Senses in respect of the objective world, it is surprising that he did not also see that *every* subjective condition was entitled to the rank of a Form of Thought, an *à priori* element. Every organ necessarily brings with it its special Forms, i. e. the special modes under which its activity can go on, modes which determine the reception of stimuli, and thus determine the sensation. Sounds and Images are not less *à priori* than concepts. If we can only think under certain

Categories, so likewise we can only feel under certain organic conditions.

Waiving, however, the incompleteness of his enumeration, and accepting Space and Time, the Categories, and the Ideas of Reason as the *summa genera*, I will consider only the validity of his argumentation. Here, *in extenso*, are the four positions on which he grounds the *à priori* and purely subjective nature of Space.

'1. Space is not a conception which has been derived from outward experiences. For in order that certain sensations may relate to something without me (that is, something which occupies a different part of space from that in which I am); in like manner, in order that I may represent them not merely as without of and near each other, but also in separate places, the representation of space must already exist as a foundation. Consequently, the representation of space cannot be borrowed from the relations of external phænomena through experience; but on the contrary, this external experience is itself only possible through the said antecedent experience.

'2. Space, then, is a necessary representation, *à priori*, which serves for the foundation of all external intuitions. We never can imagine or make a representation to ourselves of the non-existence of space, though we may easily enough think that no objects are found in it. It must therefore be considered as the condition of the possibility of the phænomena, and by no means as a determination dependent on them; and is a representation, *à priori*, which necessarily supplies the basis for external phænomena.

'3. Space is no discursive, or, as we say, general conception of the relations of things, but a pure intuition. For in the first place we can only represent to ourselves one space: and when we talk of divers spaces, we mean only parts of one and the same space. Moreover these parts cannot antecede this one all-embracing space, as the component parts from which the aggregate can be made up, but can be cogitated only as existing in it. Space is essentially one, and multiplicity in it depends solely upon limitations. Hence it follows that an *à priori* intuition (which is not empirical) lies at the root of all our conceptions of Space. Thus moreover the principles of geometry—for example, that in a triangle two sides together are greater than the third,—are never deduced from general conceptions of line and triangle, but from intuition, and this *à priori* with apodeictic certainty.

'4. Space is represented as an infinite given quantity. Now, every conception must indeed be considered as a representation which is contained in an infinite multitude of different possible representations, which therefore comprises these under itself; but no conception, as such, can be so conceived as if it contained within itself an infinite multitude of representations. Nevertheless, Space is so conceived of, for all parts of space are equally capable of being produced to infinity. Consequently, the original representation of Space is an intuition *à priori*, and not a conception.' [*]

It would needlessly prolong this discussion, to expound the generation of our idea of Space as an abstract idea gathered from our experience. Kuno Fischer proclaims this generation to be a perfect illustration of what an explanation should *not* be.[†] 'It presupposes,' he says, 'that which it is to explain. Space and Time are already perfectly present in the experiences from which they are supposed to be abstracted. There is no impression, no perception, no representation, which is *not* in Space and Time.' Surely it must be said of all abstractions, that they are presupposed in their elements? He will not allow this. According to him, the abstract idea Man is made up of particular ideas, Men; but Space and Time are not made up of spaces and times, they precede these particulars. 'It is impossible to deduce Space and Time from our perceptions, simply because our perceptions are only possible through Space and Time.'

The fallacy of the argument may most briefly and convincingly be exhibited in an illustration. He would admit that Experience is not *à priori*. If it has any meaning at all, it is *à posteriori*. Apply his argument to it. 'Experience cannot be derived from without. It is impossible to deduce sensations and perceptions from Experience, because they all presuppose it; in every particular experience, there is the antecedent groundwork Experience, which determines the possibility of the particular.'

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[*] *Critique of Pure Reason.* MICKLEJOHN's translation, p. 23.

[†] KUNO FISCHER: *Kant's Leben und die Grundlagen seiner Lehre*, 1860, p. 128. Compare his *Commentary*, p. 36.

Kant would probably answer, 'No, there is an *à priori* condition, which renders Experience possible; there is not an *à priori* experience.' I say, in like manner, there is an *à priori* condition of the nervous system, which renders Space and Time possible, but there are not *à priori* Forms of Space and Time ready to give shape to the crude material of sense. The fulcrum of the fallacy is the assumption that we can separate the objective from the subjective elements in thought, and assign what is *à priori*.

Kuno Fischer asks if Space and Time are abstractions, from what impression are they abstracted? He here presupposes them to be Objects, whereas they are Relations. Kant, indeed, denies that they are either Objects or Relations; considering them to have a purely subjective existence, as mere Forms of Thought. Is this consistent with psychological analysis? We may admit that Space and Time are subjective conditions in so far as they are the forms in which, owing to the structure of our organs, all our perceptions are *defined*; but we cannot admit that they are only subjective, inasmuch as they must have corresponding objective conditions; we cannot admit that these forms exist as ready-made Moulds, into which the fused metal of experience must be cast, but we affirm that they are forms gradually evolved in and through Experience, as functions of the two co-efficients organism and medium. The Forms of Thought, like the Forms of Life, are evolutions, not pre-formations.

Trendelenburg says that Kant, in proving the subjectivity of Space and Time, had scarcely any suspicion that they might *also* be objective.[*] But the suspicion had visited him, and was deliberately rejected. To have admitted it, would have destroyed his whole system. Nor is he answered by proving the objectivity of Space and Time from the law of falling bodies, or the periodicity of organic evolution.* These, Kant would say, are phenomena, and, as such, come under subjective conditions; if we know things at all, we must know them under forms of Space and Time. It is true, that those who espouse the other doctrine find an insuperable objection in the fact that we *discover* quantitative space and time—relations in objects—and do not bring these with us. Granting that we bring Space and Time with us, this is qualitatively, not quantitatively; and the discovery of precise quantities proves the objectivity of something quantified. A point Kant has overlooked.

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[*] Trendelenburg: *Logische Untersuchungen*, i. 163.

Thus, unless Matter and Motion be also Forms of Thought, the objectivity of Space and Time, as *relations* of Matter and Motion, must be granted; the relations of co-existence, and succession in objects, are the external correspondents of those internal (mental) relations named Space and Time. But only as relations. I make this remark, because Mr. Herbert Spencer, stating the dilemmas to which we are reduced respecting all ultimate ideas, asserts that 'to say Space and Time exist objectively, is to say that they are entities. The assertion that they are nonentities, is self-destructive; nonentities are nonexistences, and to allege that nonexistences exist objectively, is a contradiction in terms. Neither can they be regarded as attributes of some entity. Thus, as they cannot be either nonentities or attributes of entities, we have no choice but to consider them as entities.'† Surely we have the choice of considering them as relations? But Mr.

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* 'La loi Newtonienne, qui rend si bien raison des phénomènes astronomiques, implique l'existence hors de l'esprit humain, du temps, de l'espace et des relations géométriques. Comment admettre que les phénomènes astronomiques, si manifestement indépendants des lois ou des formes de l'intelligence humaine, viendraient se co-ordonner d'une manière simple et régulière en un système qui ne signifierait pourtant rien hors de l'esprit.' COURNOT: *Essai sur les Fondements de nos Connaissances*, 1851, i. 806. Comp. p. 314.

† SPENCER: *First Principles*, p. 47.

Spencer declines to escape from the dilemma through Kant's issue—that they are purely subjective conditions. He justly remarks, that the very fact of consciousness, on which Kant relies—namely, that Space and Time cannot be suppressed—testifies to the objective existence; 'for that consciousness of Space and Time, which we cannot rid ourselves of, is the consciousness of them as existing objectively.'*

The denial of any objectivity to Space and Time, apart from the phenomenal world, has greatly agitated the schools. In Kant's system, the denial was imperative.† It was essential to the discrimination of the *à priori* elements. When we ask for proof of this startling assertion, we find that it rests on questionable assumptions. The chief of these is, that if we eliminate from our empirical intuitions of Matter, and its changes, every element that is empirical, namely, everything belonging to sensation (which is what we cannot do), then Space and Time remain over, and these are therefore the pure intuitions *à priori*. The proof of this? It lies in the assumption that Space and Time are anterior to sensation. Note the involutions of assumption here! First, we are to eliminate the elements furnished by sensation; but, to do this, we must already know what elements are not furnished by sensation; we must know the *à priori* elements before we can isolate them. Next, having found Space and Time remaining over after our arbitrary elimination, we assume these to be *à priori*, because they are not furnished in sensation.

Has Kant proved that Space and Time are purely subjective conditions, without any corresponding objective conditions? Sir W. Hamilton affirms that Kant has 'placed the truth beyond the possibility of doubt, to all who understand the meaning and conditions of the problem.' * If the foregoing criticism has any value, the answer will be, No; the proofs adduced by Kant are a series of unacceptable assumptions.

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* Mr. Spencer seems to me less happy in his objection, that 'if space and time are forms of thought, they can never be thought of, since it is impossible for one thing to be at once the *form* of thought and the *matter* of thought.' *First Pr.* p. 49. Kant had himself seen what there is of valid in this objection, by distinguishing the form as that which cannot be matter: 'For that in which all feelings are arranged and shaped, into definite shapes, cannot itself be a feeling.' *Kritik: Die transcend. Æsthetik*, § 1, p. 60. But he would have answered Mr. Spencer's objection, by saying, that if the mind can think of itself, it can think its Forms. Moreover, Mr. Spencer has himself furnished an answer, in what he says of the unconditioned, pp. 94, 96.

† Kant: *Prolegomena*, § 9, p. 197.

And now we may take in hand the second topic selected for criticism, which has indeed been soliciting us at every step, but which could not conveniently have been treated before: I mean, the distinction between the Objective and Subjective elements in Thought. This distinction is considered the great achievement of the Critical Philosophy. The doctrine of the relativity of Knowledge, never wholly absent from speculation since the days of Protagoras, assumed in Kant's hands a precision and influence which gave an immense impetus to speculation. Nevertheless, there was an initial misconception in his attempt to isolate the elements of an indissoluble act. It was one thing to assume that there are necessarily two co-efficients in the function; another thing to assume that these could be isolated and studied apart. It was one thing to say, Here is an organism with its inherited structure, and aptitudes dependent on that structure, which must be considered as necessarily determining the forms in which it will be affected by external agencies, so that all experience will be a compound of subjective and objective conditions; another thing to say, Here is the pure *à priori* element in every experience, the form which the mind impresses on the matter given externally. The first was an almost inevitable conclusion; the second was a fiction. Psychology, if it can show us anything, can show the absolute impossibility of our discriminating the objective from the subjective elements. In the first place, the attempt would only be possible on the ground that we could, at any time and in any way, disengage Thought from its content: separate in Feeling the object as it is out of all relation to Sensibility, or the subject as pure subject. If we could do this in one instance, we should have a basis for the investigation. The chemist who has learned to detect the existence of an acid, by its reactions in one case, can by its reactions determine it in other cases. Having experience of an acid and an alkali, each apart from the other, he can separate them when finding them combined in a salt, or he can combine them when he finds them separate. His analysis and synthesis are possible, because he has elsewhere learned the nature of each element separately. But such analysis or synthesis is impossible with the objective and subjective elements of thought. Neither element is ever given alone. Pure thought and pure matter are unknown quantities, to be reached by no equation. The thought is necessarily and universally subject-object; matter is necessarily, and to us universally, object-subject. Thought is only called into existence under appropriate conditions; and in the objective stimulus, the object and subject are merged, as acid and base are merged in the salt.* When I say that the sensation of light is a compound of objective vibrations and retinal susceptibility, I use language which is intelligible and serviceable for my purpose; but I must not imagine that the external object named vibration, is the *Ding an sich*, the pure object out of all relation to sensibility; nor that the retinal susceptibility is pure subject, involving no vibratory element. Kant himself would assure me that the vibrations were as subjective as the susceptibility. Indeed, seeing that he denied altogether the possibility of a knowledge of pure object, the *Ding an sich*, it was a violent strain of logic to conclude that in thought we could separate this unknowable object from the subject knowing it. This, great as it is, is not the only violation of consistency in his scheme. Already, in our Prolegomena

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* HAMILTON: *Lectures on Metaphysics*, ii. 113. Hard words for us doubters! but they did not prevent Sir William's flatly contradicting this indubitable doctrine, since, a few minutes afterwards, we find him asserting, that the idea of space is *à posteriori* as well as *à priori*!

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* 'Der menschliche Geist ist als getrennter Geist nicht der göttliche und [illegible] von der Erregung, die er empfängt, um das Empfangene selbstthätig in sein Eigenthum zu verwandeln.'—TRENDELENBURG: *Logische Untersu.* i. 136.

(§ 57), we had to notice how he fell into the common error of predication respecting the unknowable. Mr. Bolton has charged him with falling into it, in his refutation of idealism:—

'Thus then Kant, in his anti-sceptic character, affirms that Noumena exist. In doing this he applies to Noumena the category or conception of existence. He affirms that they really exist; thus applying to them the category of reality. He affirms that they are *Noumena,* i.e. objects of our *νοῦς*; thus applying to them the conception of relation, and specially of the relation of *νοούμενον* to *νοῦς*. He affirms that they are to be believed by us—that they are objects of our belief; thus applying to them the conception of credibility, and again that of relation. He supposes that there are Noumena existing besides himself—indeed he generally speaks of Noumena in the plural number—thus applying to Noumena the category of plurality. He declares Noumena to be different from Phenomena;—the peculiar merit of his doctrine is held to be that he distinguishes Phenomena from things in themselves, or Noumena; thus he applies to Noumena the category or conception of difference.

'Again, he teaches that Noumena are active or operative; that by the joint action of the external Noumenon and of our faculties the Phenomenon is produced. And this is evidently an important part of his doctrine. For if we considered that Phenomena might take place and be cognised without any operation or agency of Noumena, we should have no ground to affirm the existence of Noumena at all. Here, then, he applies to Noumena the category of activity, of causality.

'Thus then Kant, in his own teaching, does apply to Noumena the conceptions or categories of existence, reality, activity, relation, difference, etc., and propounds to us the judgments formed in virtue of such an application as valid and legitimate, as important truths; while on the other hand he forbids Leibnitz and other philosophers to apply categories or conceptions to Noumena, and proclaims it as the main purpose of his labours to establish that such a procedure is wholly illegitimate.

'As to any attempt to demonstrate the existence of Noumena, clearly, if the negative part of Kant's doctrine is right, the attempt must be hopeless. For the demonstration must be conducted by thought, which cannot be done without employing the categories; and the conclusion must apply some of the categories to Noumena, and that not problematically but assertorically. If such a procedure be altogether illegitimate, as Kant so repeatedly asserts, the pretended demonstration must be illegitimate.

'Thus then it appears that the negative principle enunciated by Kant, and established, as he asserts, by his critical labours, is too negative for his purposes; that it is in truth *Alleszermalmend*; crushing the doctrines of his predecessors, Descartes, Leibnitz, &c., but crushing with equal completeness his own teaching, so far as this is positive.

'Again, after having shown, as he conceives, the vanity of all theology based on the intellect and speculative Reason, Kant professes to restore what he had apparently destroyed, by means of the moral or practical Reason. Relying upon this, he re-introduces to us the theological doctrine, that the world is governed by a Personal God, a righteous Judge, who awards to men after death the lot which they deserve: appropriate misery to the bad, and appropriate bliss to the good.

'But if the principles employed in the Critique of the speculative Reason are correct, how can judgments obtained by means of the practical Reason possess any absolute truth? Is it urged that they have a character of necessity or universality, and that judgments having this character should be regarded as absolutely true? If the Critique is correct it has been shown that the character in question may arise simply from the fact that our minds are constituted in a particular way; and that it does not authorise us to believe that other beings think or judge in like manner. If this be the case, the judgments in question, however useful they may be for the regulation of our conduct, cannot authorise us to affirm the existence of an unseen Noumenon wholly beyond the field of experience, and to affirm that this Noumenon governs the Universe according to our idea of justice.

'Further, it is evident that when Kant, in his moral theology, affirms God to exist,—to be a righteous governor of the Universe, rewarding the good and punishing the bad,—he quite sets at nought the principle laid down in his Critique, that categories and conceptions have no valid application except to phenomena and to objects of experience. For it is uniformly assumed by Kant that God is a noumenon, not a phenomenon, and that he does not lie within the field of possible experience. Were this otherwise, all Kant's critique of rational theology would fall to the ground. If, then, we can legitimately predicate of God existence, goodness, righteousness, power, and the attributes of a moral governor, we can legitimately make application of categories and conceptions to a Noumenon, and that too not merely problematically, but assertorically.' *

As we have said more than once, the distinction between *à priori* and *à posteriori*, between subjective and objective elements in thought, was fundamental in Kant's scheme, and was a sheer impossibility in fact. All philosophers were loud in asserting that no knowledge could have any absolute validity unless it were based on ideas transcending our contingent experience. Such a basis was, by Leibnitz and the ontologists, believed to be furnished in Necessary Truths. These were *à priori*, because necessary. Kant came, and seemed at first to be playing into the hands of the ontologists, by proving, 1, that necessary truths did exist; 2, that they were *à priori*; 3, that all our certitude must repose on them. His proofs of these important positions, which predecessors had only assumed, were pronounced overwhelming. But Kant did not draw from these premisses the conclusion drawn by ontologists; his conclusion was precisely the reverse of theirs. He showed that the subjective, *à priori* nature of these truths was peremptory proof of their objective falsehood. They could not be truths of things, precisely because they were purely subjective conditions of thought. The ontologists had scouted experience as essentially delusive; Kant showed that Reason was essentially illusive. The ontologists declared that knowledge derived through the senses must be subject to all sensory illusions. Kant showed that the Categories and Ideas of Reason played the same part as the Senses in *excluding* the pure object from knowledge.

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* BOLTON: *Inquisitio Philosophica*, p. 126.

Hence the demonstration of the relativity of Knowledge, which was the great outcome of the *Kritik*, was a demonstration of the vanity of ontological speculation. It is true that Kant himself compensated the sceptical results of his *Kritik* by a somewhat arbitrary creation of the Practical Reason, which was to build up all that Theoretical Reason had shown to be without solid foundation. But Philosophy refused the compromise, and the successors of Kant were either Sceptics or Idealists.

He resisted the accusation of Idealism* as a gross misrepresentation. The proposition of all the Idealists, he says, from the Eleatics to Berkeley, is this: 'All knowledge derived from the senses and experience is nothing but delusion (*Schein*); only in the ideas of Reason is there truth.' Whereas the ground principle of his Idealism is 'All knowledge of things founded solely on the Reason is nothing but delusion; only in Experience is there truth.'

On a superficial view this passage might be interpreted as an adhesion to the school of Locke and Hume, in which Experience was posited as the ground of knowledge; but the preceding pages have shown us what Kant really meant by Experience, which was only rendered possible by the existence of certain *à priori* concepts.

That Kant himself was not an Idealist is very certain, but that his system almost inevitably led to Idealism when logically carried out, is evident in the works of his successors, who were unwilling to preserve the sceptical attitude. The *Ding an sich*, the objective Noumenon, could not, he affirmed, be known by us, because it necessarily became a Phenonenon in becoming known. But it nevertheless existed, and its existence was a necessary postulate. We only know *that* it is, not *what* it is.[*] The Idealist might, however, justifiably retort upon him, that this Noumenon was only a *suppressed category*—a postulate of the Understanding, and, as such, no less subjective than Time and Space, or Cause and Effect. Again, when Kant attempts to discriminate between Phenomenon and Phantasm (*Erscheinung* and *Schein*), in that the Phenomenon has an objective cause, the Idealist might retort, But you have shown that Causality itself is only a subjective category.

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* See the *Anhang* to his *Prolegomena*, iii. 303 *sq.*

I must close here this necessarily imperfect account of the greatest of modern metaphysicians, and, in closing it, I cannot better express my sense of his greatness, and of the service he has been to Philosophy, than by advising the student to undertake a careful and meditative reading and re-reading of the *Kritik*, the *Prolegomena*, and the *Anfangsgründe der Naturwissenschaft*; for although, as I conceive, Kant was mistaken in Method and fallacious in results, this was the fault of Metaphysics not the weakness of the metaphysician; and seeing that metaphysical problems must be mooted, if only in order that we should learn their insolubility, no more powerful argument, no more stimulating dialectics, can be found than in his writings.

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[*] Mr. MANSEL makes the following objection. 'When Kant declares that the objects of our intuition *are not* in themselves as they appear to us, he falls into the opposite extreme to that which he is combating; the Critic becomes a Dogmatist in negation. To warrant this conclusion we must previously have compared things as they are with things as they seem; a comparison which is, *ex hypothesi*, impossible. We can only say that we have no means of determining whether they agree or not.' *Prolegomena Logica*, p. 82. But KANT is justified, if once the position be allowed that we necessarily mingle the conditions of our Sensibility with the external stimulus; to the extent in which the subject is a factor, to that extent must it be a modifier.

# TENTH EPOCH.

*Philosophy once more asserts a claim to absolute Knowledge.*

## CHAPTER I.

## FICHTE.

### § I. Life of Fichte.

JOHANN GOTTLIEB FICHTE was born at Rammenau, a village lying between Bischofswerda and Pulsnitz, in Upper Lusatia, on the 19th May 1762.* His childhood, of which many touching anecdotes are related, was signalized by extraordinary intellectual capacity and great moral energy. He was a precocious child, and long before he was old enough to be sent to school he learned many things from his father, who taught him to read, and taught him the pious songs and proverbs which formed his own simple stock. With these was mixed an enchanting element—the stories of his early wanderings in Saxony and Franconia, stories to which young Johann listened with never-tiring eagerness. It was probably the vague longings which these recitals inspired, that made him wander into the fields, quitting his companions to roam away and enjoy the luxury of solitude. This pale and meditative child is at his ease in solitude. He stands for hours, gazing into the far distance, or in mournful yearning at the silent sky over-arching him. The sun goes down and the boy returns home melancholy with the twilight. He does this so constantly that neighbours remark it; comment on it; and, in after-years, when that boy has become a renowned man, they recur to it with sudden pleasure, not forgetting also that they had 'always said there was something remarkable in the boy.'

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* See the biography by Fichte's son—*Fichte's Leben und litterarischer Briefwechsel*, 2 vols. 1836.

Fichte's progress was so rapid that he was soon entrusted with the office of reading family prayers; and his father cherished the hope of one day seeing him a clergyman. An event curious in itself, and very important in its influence on his subsequent career, soon occurred, which favoured that hope, and went far to realize it. But before we relate it we must give a touching anecdote, which exhibits Fichte's heroic self-command in a very interesting light.*

The first book which fell into his hands after the Bible and Catechism, was the renowned history of *Siegfried the Horned*, and it seized so powerfully on his imagination, that he lost all pleasure in any other employment, became careless and neglectful, and, for the first time in his life, was punished. Then, in the spirit of the injunction which tells us to cut off our right hand if it cause us to offend, Fichte resolved to sacrifice the beloved book, and, taking it in his hand, walked slowly to a stream flowing past the house, with the intention of throwing it in. Long he lingered on the bank, ere he could muster courage for this first self-conquest of his life; but at length, summoning all his resolution, he flung it into the water. His fortitude gave way as he saw the treasure, too dearly loved, floating away for ever, and he burst into a passionate flood of tears. Just at this moment the father arrived on the spot, and the weeping child told what he had done; but, either from timidity or incapacity to explain his feelings, was silent as to his true motive. Irritated at this treatment of his present, Fichte's father inflicted upon him an unusually severe punishment, and this occurrence formed a fitting prelude to his after-life, in which he was so often misunderstood, and the actions springing from the purest convictions of duty were exactly those for which he had most to suffer. When a sufficient time had elapsed for the offence to be in some measure forgotten, the father brought home another of these seducing books; but Fichte dreaded being again exposed to the temptation, and begged that it might rather be given to some of the other children.

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* For both anecdotes we are indebted to a very interesting article on Fichte which appeared in the *Foreign Quarterly Review*, No. 71. We have abridged the passages; otherwise the narrative is unaltered.

It was about this time that the other event before alluded to occurred. The clergyman of the village, who had taken a fancy to Gottlieb and often assisted in his instruction, happened one day to ask him how much he thought he could remember of the sermon of the preceding day. Fichte made the attempt, and, to the astonishment of the pastor, succeeded in giving a very tolerable account of the course of argument, as well as of the texts quoted in its illustration. The circumstance was mentioned to the Count von Hoffmansegg, the lord of the village, and one day another nobleman, the Baron von Mittitz, who was on a visit at the castle, happening to express his regret at having been too late for the sermon on the Sunday morning, he was told, half in jest, that it was of little consequence, for that there was a boy in the village who could repeat it all from memory. Little Gottlieb was sent for, and soon arrived in a clean smock-frock and bearing a large nosegay, such as his mother was accustomed to send to the castle occasionally as a token of respect. He answered the first questions put to him with his accustomed quiet simplicity; but when asked to repeat as much as he could recollect of the morning's sermon, his voice and manner became more animated, and, as he proceeded, entirely forgetting the presence of the formidable company, he became so fervid and abundant in his eloquence, that the Count thought it necessary to interrupt him, lest the playful tone of the circle should be destroyed by the serious subjects of the sermon. The young preacher had however made some impression on his auditory; the Baron made inquiries concerning him, and the clergyman, wishing for nothing more than an opportunity to serve his favourite, gave such an account that the Baron determined to undertake the charge of his education. He departed, carrying his *protégé* with him, to his castle of Siebeneichen, in Saxony, near Meissen, on the Elbe; and the heart of the poor village boy sank, as he beheld the gloomy grandeur of the baronial hall, and the dark oak forests by which it was surrounded. His first sorrow, his severest trial, had come in the shape of what a misjudging world might regard as a singular piece of good fortune, and so deep a dejection fell on him, as seriously to endanger his health. His patron here manifested the really kindly spirit by which he had been actuated; he entered into the feelings of the child, and removed him from the lordly mansion to the abode of a country clergyman in the neighbourhood, who was passionately fond of children, and had none of his own. Under the truly paternal care of this excellent man, Fichte passed some of the happiest years of his life, and to its latest day looked back to them with tenderness and gratitude. The affectionate care of this amiable couple, who shared with him every little domestic pleasure, and treated him in every respect as if he had been indeed their son, was always remembered by him with the liveliest sensibility, and certainly exercised a most favourable influence on his character.

In this family, Fichte received his first instruction in the languages of antiquity, in which however he was left much to his own efforts, seldom receiving what might be called a regular lesson. This plan, though it undoubtedly invigorated and sharpened his faculties, left him imperfectly acquainted with grammar, and retarded, in some measure, his subsequent progress at Schulpforta. His kind preceptor soon perceived the inefficiency of his own attainments for advancing the progress of so promising a pupil, and urged his patron to obtain for Fichte what appeared to him the advantages of a high school. He was accordingly sent, first to Meissen, and afterwards to the seminary at Schulpforta.

There the system of fagging existed in full force, and with its usual consequences, tyranny on the one side, dissimulation and cunning on the other. Even Fichte, whose native strength of character in some measure guarded him from evil influences that might have been fatal to a mind of a feebler order, confesses that his life at Schulpforta was anything but favourable to his integrity. He found himself gradually reconciled to the necessity of ruling his conduct by the opinion of the little community around him, and compelled to practise occasionally the same artifices as others, if he would not with all his talents and industry be always left behind.

Into this microcosm of contending forces the boy of thirteen, nurtured amidst lonely hills and silent forests, now found himself thrown. The monastic gloom of the buildings contrasted at first most painfully with the joyous freedom of fields and woods, where he had been accustomed to wander at will; but still more painfully, the solitude of the moral desert. Shy and shrinking within himself, the tears which furnished only subjects of mockery to his companions were forced back, or taught to flow only in secret. Here however he learned the useful lesson of self-reliance, so well though so bitterly taught by want of sympathy in those around us; and from this time to the close of his life it was never forgotten. It was natural that the idea of escape should occur to a boy thus circumstanced, but the dread of being retaken and brought back in disgrace to Schulpforta occasioned hesitation. Whilst brooding over this project, it happened that he met with a copy of *Robinson Crusoe*, and his enthusiasm, the enthusiasm of thirteen, was kindled into a blaze. The desert should be his dwelling-place! On some far-off island of the ocean, beyond the reach of men and the students of Schulpforta, he would pass golden days of freedom and happiness. It was a common boyish notion, but the manner in which it was carried into execution shows traces of the character of the individual. Nothing could have been easier than for him to have taken his departure unperceived on one of the days when the scholars were allowed to go to the playground; but he scorned to steal away in secret; he would have this step appear as the result of necessity and deliberate determination. He therefore made a formal declaration to his superior, a lad who had made a cruel and oppressive use of the brief authority entrusted him, that he would no longer endure the treatment he received, but would leave the place at the first opportunity. As may be supposed, the announcement was received with sneers and laughter; and Fichte now considered himself in all honour free to fulfil his resolution. It was easy to find an opportunity, and accordingly, having taken the precaution to study his proposed route on the map, he set off, and trudged on stoutly on the road to Naumburg. As he walked, however, he bethought himself of a saying of his beloved old pastor, that one should never begin an important undertaking without a prayer for Divine assistance; he turned therefore, and kneeling down on a green hillock by the roadside, implored, in the innocent sincerity of his heart, the blessing of Heaven on his wanderings. As he prayed it occurred to the new Robinson that his disappearance must occasion grief to his parents, and his joy in his wild scheme was gone in a moment. 'Never, perhaps, to see his parents again!' This terrible thought suddenly presented itself with such force that he resolved to retrace his steps, and meet all the punishments that might be in store for him, 'that he might look once more on the face of his mother.'

On his return, he met those who had been sent in pursuit of him; for as soon as he had been missed, the 'Obergesell' had given information of what had passed between them. When carried before the Rector, Fichte immediately confessed that he had intended to escape, and at the same time related the whole story with such straightforward simplicity and openness, that the Rector became interested, and not only remitted his punishment, but chose for him, among the older lads, another master, who treated him with the greatest kindness, and to whom he became warmly attached.

Fichte had become a *Candidatus Theologiæ*, but his patron died, and with him died all hopes of being a clergyman. His prospects were gloomy in the extreme; but he was relieved from anxiety by being offered the situation of private tutor in a family in Switzerland. He soon afterwards made acquaintance with Lavater and some other literary men. He also formed an attachment, which was to last him through life, with a niece of Klopstock.

Fichte's tutorship was remarkable. The parents of his pupils, although neither perfectly comprehending his plans, nor approving of that part which they did comprehend, were nevertheless such admirers of his moral character—they stood in such respectful awe of him—that they were induced to submit their own conduct with respect to their children to his judgment. We presume that all well-meaning tutors occasionally make suggestions to parents respecting certain points in their conduct towards the children; but Fichte's plan is, we fancy, quite unexampled in the history of such relations. He kept a journal, which he laid before them every week, and in which he had noted the faults of conduct of which they had been guilty. This lets us into the secret of Fichte's firm and truthful character, as much as anything we know about him. It was from such a soil that we might expect to find growing the moral doctrines which afterwards made his name illustrious. But this domestic censorship could not last long; it lasted for two years; and that it should have lasted so long is, as has been remarked, strong evidence of the respect in which his character was held. But it was irksome, insupportable, and ended at length in mutual dissatisfaction. He was forced to seek some other mode of subsistence. He went to Leipzig, where he gave private lessons in Greek and Philosophy, and became acquainted with the writings of Kant. This was an important event to him. Hear in what terms he speaks of it:—

'I have been living, for the last four or five months in Leipzig, the happiest life I can remember. I came here with my head full of grand projects, which all burst one after another, like so many soap-bubbles, without leaving me so much as the froth. At first this troubled me a little, and, half in despair, I took a step which I ought to have taken long before. Since I could not alter what was without me, I resolved to try and alter what was within. I threw myself into Philosophy—the Kantian, *videlicet*—and here I found the true antidote for all my evils, and joy enough into the bargain. The influence which this philosophy, particularly the ethical part of it (which however is unintelligible without a previous study of the *Kritik der reinen Vernunft*), has had upon my whole system of thought, the revolution which it has effected in my mind, is not to be described. To you especially I owe the declaration, that I now believe, with all my heart, in free will, and that I see that under this supposition alone can duty, virtue, and morality have any existence. From the opposite proposition, of the necessity of all human actions, must flow the most injurious consequences to society; and it may, in fact, be in part the source of the corrupt morals of the higher classes which we hear so much of. Should any one adopting it remain virtuous, we must look for the cause of his purity elsewhere than in the innocuousness of the doctrine. With many it is their want of logical consequence in their actions.

'I am furthermore well convinced, that this life is not the land of enjoyment, but of labour and toil, and that every joy is granted to us but to strengthen us for further exertion; that the management of our own fate is by no means required of us, but only self-culture. I trouble myself therefore not at all concerning the things that are without; I endeavour not to appear, but to *be*. And to this perhaps I owe the deep tranquillity I enjoy; external position however is well enough suited to such a frame of mind. I am no man's master, and no man's slave. As to prospects, I have none at all, for the constitution of the church here does not suit me, nor, to say the truth, that of the people either. As long as I can maintain my present independence I shall certainly do so. I have been for some time working at an explanatory abridgment of *Kritik der Urtheilskraft* (Critical Inquiry into the Faculty of Judgment), but I am afraid I shall be obliged to come before the public in a very imamture state, to prevent being forestalled by a hundred vamped-up publications. Should the child ever make its appearance, I will send it to you.'*

It was in consequence of his admiration of Kant, that, after several ineffectual attempts to settle himself, he went to Königsberg. Instead of a letter of introduction, Fichte presented Kant with a work, written in eight days, and which bore the title of *A Critique of every possible Revelation*. Kant at once recognized his peer, and received him warmly. But Kant himself, though celebrated, was neither rich nor influential. Fichte's affairs were desperate. We have his own confession in the fragments of a journal which he kept at the time:—

'*28th August*.—I yesterday began to revise my *Critique*. In the course of my meditation some new and excellent ideas were excogitated, which convinced me that my work was superficial. I endeavoured to carry out my investigation today; but my imagination led me so far away, that I could do nothing. I have reckoned my finances, and find that I have just enough to subsist on for a fortnight. It is true this is not the first time in my life that I have found myself in such an embarrassment, but I was then in my own country; besides, in growing older, one's sense of honour becomes more delicate, and distress is more and more of a hardship. . . . I have not been able to make any resolution. I certainly shall not speak on the subject to M. Borowsky, to whom Kant has given me an introduction. If I speak to any one, it shall be to Kant himself.

'*1st Sept*.—I have made a resolution which I must communicate to Kant. A situation as tutor, however reluctantly I might accept it, does not even offer itself; while, on the other hand, the incertitude in which I am placed does not allow me to work. I must return home. I can perhaps borrow from Kant the small sum necessary for my journey. I went to him to-day for that purpose, but my courage failed me; I resolved to write to him.

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* It was never printed; probably because, as he here anticipates, he was forestalled.

'*2nd Sept.*—I finished my letter to Kant, and sent it.

'*3rd Sept.*—Received an invitation to dinner from Kant. He received me with his usual cordiality; but informed me that it would be quite out of his power to accede to my request for another fortnight. Such amiable frankness!

'I have done nothing lately; but I shall set myself to work, and leave the rest to Providence.

'*6th Sept.*—Dined with Kant, who proposed that I should sell the MS. of my *Critique* to Hartung the bookseller. "It is admirably written," said he, when I told him I was going to rewrite it. Is that true? It is Kant who says so.

'*12th Sept.*—I wanted to work to-day; but could do nothing. How will this end? What will become of me a week hence? Then all my money will be gone.'

These extracts will not be read without emotion. They paint a curious picture in the life of our philosopher: a life which was little more than a perpetual and energetic combat.

The *Critique* was published anonymously, and gained immense applause; partly, no doubt, because it was generally mistaken for the production of Kant himself. The celebrity acquired when the authorship was disclosed, was the means of procuring Fichte the chair of Philosophy at Jena, the offer of which was made him towards the end of 1793.

Jena was then the leading University of Germany; and Fichte might flatter himself that at length he had a settled position, in which he might calmly develope his scientific views. But his was a Fighter's destiny. Even here, at Jena, he found himself soon opposing and opposed. His endeavours to instil a higher moral feeling into the students—his anxiety for their better culture—only brought on him the accusation of endeavouring to undermine the religious institutions of his country; and his speculative views brought on him the charge of atheism.

Atheism is a grave charge, and yet how lightly made! The history of opinion abounds in instances of this levity; yet scarcely ever was a charge more groundless in appearance than that against Fichte, whose system was atheistic only in superficial appearance. Nevertheless the cry was raised, and he had to battle against it. It is understood that the Government would have been willing to overlook the publication of the work which raised this cry, if Fichte had made any sort of explanatory modification; but he would not hear of it, tendered his resignation, and soon afterwards found an asylum in Prussia, where he occupied the Chair at Erlangen, and afterwards at Berlin. From his career at Berlin we will select one incident typical of his character.

The Students are assembled in crowds to hear their favourite professor, who is to lecture that day upon duty,—on that duty whose ideal grandeur his impassioned eloquence has revealed to them. Fichte arrives, calm and modest. He lectures with his usual dignified calmness, rising into fiery bursts of eloquence, but governed by the same marvellous rigour of logic as before. He leads them to the present state of affairs. On this topic he grows still more animated; the rolling of drums without frequently drowning his voice, and giving him fresh spirit. He points to the bleeding wounds of his country; he warms with hatred against oppressors; and enforces it as the duty of every one to lend his single arm to save his country.

'This course of lectures,' he exclaims, 'will be suspended till the end of the campaign. We will resume them in a free country, or die in the attempt to recover her freedom.' Loud shouts respondent ring through the hall; clapping of hands and stamping of feet make answer to the rolling drums without; every German heart there present is moved, as at the sound of a trumpet. Fichte descends; passes through the crowd; and places himself in the ranks of a corps of volunteers then departing for the army. It is the commencement of the memorable campaign of 1813.

In another year he was no more; he fell, not by a French bullet, but by the fever caught while tending his loved wife, who herself had fallen a victim to her attendance on unknown sufferers. On the 28th of January, 1814, aged fifty-two, this noble Fichte expired.

There are few characters which inspire more admiration than that of Fichte; we must all admire 'that cold, colossal, adamantine spirit standing erect and clear, like a Cato Major among the degenerate men; fit to have been the teacher of the Stoa, and to have discoursed of beauty and virtue in the groves of Academe! So robust an intellect, a soul so calm, so lofty, massive, and immovable has not mingled in philosophical discussion since the time of Luther. For the man rises before us amid contradiction and debate like a granite mountain amid clouds and winds. Ridicule of the best that could be commanded has been already tried against him; but it could not avail. What was the wit of a thousand wits to him? The cry of a thousand choughs assaulting that old cliff of granite; seen from the summit, these, as they winged the midway air, showed scarce so gross as beetles, and their cry was seldom even audible. Fichte's opinions may be true or false; but his character as a thinker can be slightly valued only by those who know it ill; and as a man approved by action and suffering, in his life and in his death, he ranks with a class of men who were common only in better ages than ours.'*

## § II. Fichte's Historical Position.

Kant's *Criticism*, although really leaving Scepticism in possession of the field, was nevertheless believed to have indicated a new domain, in which a refuge might be found. The thought soon suggested itself that on this domain an indestructible temple might be erected. Kant had driven the piles deep down into the earth—a secure foundation was made; but Kant had declined building.

Jacobi, for one, saw in the principles of 'criticism' a path on which he could travel. He maintained, that just as Sense was, according to Kant, a faculty whereby we perceived material things, so also was Reason a sense, a faculty, whereby we perceive the supersensual.

It was indeed soon evident that men would not content themselves with the mere negation to which Kant had reduced our knowledge of things *per se*. It was the positive part of his system they accepted and endeavoured to extend. This attempt forms the matter of all the subsequent history of German Philosophy till Hegel. We will briefly state the nature of the discussions which the result of Kant's system had rendered imperative.

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* Carlyle.

Kant had postulated the existence of an object as the necessary correlate to a subject. Knowledge was both objective and subjective; but inasmuch as it was thus inseparably twofold, it could never penetrate the essence of things—it could never know the object—it could only know phenomena. Hence the problem was:—

*What is the relation of object and subject?*

To solve this, it was necessary to penetrate the essence of things, to apprehend noumena. All the efforts of men were therefore to be directed towards this absolute science. The ground of all certitude being in the *à priori* ideas, an attempt was made to construct *à priori* the whole system of human knowledge.

The Ego was the necessary basis of the new edifice. Consciousness, as alone certain, was proclaimed the ground upon which absolute science must rest.

Fichte's position is here clearly marked out. His sole object was to construct a science out of consciousness, and thereon to found a system of morals.

Let us at the outset request the reader to give no heed to any of the witticisms which he may hear, or which may suggest themselves to him on a hasty consideration of Fichte's opinions. That the opinions are not those of ordinary thinkers, we admit; that they are repugnant to all 'common sense,' we must also admit; that they are false, we believe: but we also believe them to have been laborious products of an earnest mind, the consequences of admitted premisses, drawn with singular audacity and subtlety, and no mere caprices of ingenious speculation—no paradoxes of an acute but trifling mind.

It was within him that he found a lamp to light him on his path. Deep in the recesses of his soul, beneath all understanding, superior to all logical knowledge, there lay a faculty by which truth, absolute truth, might be known.

'I have found the organ,' he says in his *Bestimmung des Menschen*, 'by which to apprehend all reality. It is not the understanding; for all knowledge supposes some higher knowledge on which it rests, and of this ascent there is no end. It is Faith, voluntarily reposing on views naturally presenting themselves to us, *because* through these views alone we can fulfil our destiny, which sees our knowledge, and pronounces that 'it is good,' and raises it to certainty and conviction. It is no knowledge, but a resolution of the will to admit this knowledge. This is no mere verbal distinction, but a true and deep one, pregnant with the most important consequences. Let me for ever hold fast by it. All my conviction is but faith, and it proceeds from the will and not from the understanding; from the will also, and not from the understanding, must all the true culture proceed. Let the first only be firmly directed towards the Good, the latter will of itself apprehend the True. Should the latter be exercised and developed while the former remains neglected, nothing can come of it but a facility in vain and endless sophistical subtleties refining away into the absolutely void inane. I know that every seeming truth, born of thought alone, and not ultimately resting on faith, is false and spurious; for knowledge, purely and simply such, when carried to its utmost consequences, leads to the conviction that we can know nothing! Such knowledge never finds anything in the conclusions, which it has not previously placed in the premisses by faith; and even then its conclusions are not always correct. . . . Every human creature born into the world has unconsciously seized on the reality which exists for him alone through this intuitive faith. If in mere knowledge—in mere perception and reflection—we can discover no ground for regarding our mental presentations as more than mere pictures, why do we all nevertheless regard them as more, and imagine for them a basis, a *substratum* independent of all modifications? If we all possess the capacity and the instinct to go beyond this natural view of things, why do so few of us follow this instinct, or exercise this capacity?—nay, why do we even resist with a sort of bitterness when we are urged towards this path? What holds us imprisoned in these natural boundaries? Not inferences of our reason; for there are none which could do this. It is our deep interest in reality that does this—in the good that we are to produce—in the common and the sensuous that we are to enjoy. From this interest can no one who lives detach himself, and just as little from the faith which forces itself upon him simultaneously with his existence. We are all born in faith, and he who is blind follows blindly the irresistible attraction. He who sees follows by sight, and believes because he will believe.' *

Here the limit, set by Kant, is overleaped: a knowledge of realities is affirmed. But it is not enough to affirm such a knowledge; we must prove it. To prove this is the mission of Philosophy.

Fichte, who thought himself a true Kantist, although Kant very distinctly and publicly repudiated him, declared that the materials for a science had been discovered by Kant; nothing more was needed than a systematic co-ordination of these materials: and this task he undertook in his famous Doctrine of Science (*Wissenschaftslehre*). In this he endeavoured to construct *à priori* all knowledge.

## § III. Basis of Fichte's System.

We are supposed to perceive external objects through the ideas which these objects excite in us. But this assumption is not warranted by the facts of consciousness. What is the fundamental fact? It is that I have in my mind a certain idea. This, and this only, is primarily given. When we leave this fact in quest of an explanation, we are forced to admit either that this idea is spontaneously evolved *by me*; or else some *not-me*—something different from myself has excited it *in me*. Idealism or Dualism?

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* *Destination of Man*, translated by Mrs. Percy Sinnett: London, 1846

Kant, unwilling to embrace idealism, and unable to conceive how the Ego spontaneously evolved within itself ideas of that which it regarded as different from itself, postulated the existence of a Non-Ego, but declared that we knew nothing of it. In this he followed Locke, and the majority of philosophers.

Truly, said Fichte, we know nothing of it; we can only know that which passes within ourselves. Only so much as we are *conscious* of, can we know; but in consciousness there is no object given, there is only an idea given. Are we forced by the very laws of our reason to suppose that there is Non-Ego existing?—are we forced to assume that these ideas are images of something *out* of us and independent of us? To what does this dilemma bring us? Simply to this: that the very assumption, here called a necessary consequence of our mental constitution—this Non-Ego, which must be postulated, is, after all, nothing but a postulate of our reason; is therefore a *product of the Ego*. It is the Ego which thus *creates the necessity* for a Non-Ego; it is the Ego which thus, *answering to the necessity, creates the Non-Ego wanted*. Ideas, and nothing but ideas, are given in the primary fact of consciousness. These are the products of the *activity* of the Ego; and not, as is so commonly asserted, the products of the *passivity* of the Ego. The soul is no passive mirror reflecting images. It is an active principle creating them. The soul is no lifeless *receptivity*. Were it not brimming over with life and activity, perception would be impossible. One stone does not perceive another. A mould does not perceive the liquid that is poured into it.

Consciousness is in its very essence an activity. Well then, if in its activity it produces images, and if by the laws of its nature it is forced to assume that these images have some substratum, what is this assumption but *another* form of the soul's activity? If the Ego is conscious of its changes; and yet is forced to attribute these changes to some external cause, what is this very act of assuming an external cause but the pure act of the Ego?—another change in the consciousness?

You admit that we cannot know Substance; all our knowledge is limited to accidents—to phenomena. But, you say, you are forced to assume a Substance as the basis of these accidents—a noumenon as that whereby phenomena are possible; and yet you cannot *know* this noumenon. Fichte answers: If you cannot *know* it, your assumption, as the mere product of your reason, is nothing more nor less than another form of the activity of the Ego. It is *you* who assume; and you assume *what* you call Substance. Substance is nothing but the *synthesis of accidents*. And it is a mental synthesis.

Thus Fichte founded Idealism upon the basis of consciousness, which was the admitted basis of all certitude; and he not only founded Idealism, but reduced the Ego to an activity, and all *knowledge* to an *act*.

The activity of the Ego is of course an assumption, but it is the only assumption necessary for the construction of a science. That once admitted, the existence of the Non-Ego, as a product of the Ego, follows as a necessary consequence.

Every one will admit that A = A; or that A *is* A. This is an axiom which is known intuitively, and has no need of proof. It is the proposition of absolute identity (*Satz der Identität*). It is absolutely true. In admitting this to be absolutely true, we ascribe to the mind a faculty of knowing absolute truth.

But in saying A equals A, we do not affirm the *existence* of A; we only affirm that *if* A exist, then it must equal A. And the axiom teaches us not that A exists; but there is a necessary relation between a certain *if* and *then*; and this necessary relation we will call x. But this relation, this x, is only *in* the Ego, comes only *from* the Ego. It is the Ego that judges in the preceding axiom that A = A; and it judges by means of x.

To reduce this to language a little less scholastic, we may say that, in every judgment which the mind makes, the act of judging is an act of the Ego.

But as the x is wholly in the Ego, so therefore is A *in* the Ego, and is posited *by* the Ego. And by this we see that there is *something* in the Ego which is for ever one and the same, and that is the x. Hence the formula, 'I *am* I: Ego = Ego.'

We come here to the *Cogito, ergo sum*, of Descartes, as the basis of all certitude. The Ego posits itself, and *is* by means of this very self-positing. When I say 'I am,' I affirm, in consciousness, my existence; and this affirmation of my consciousness is the condition of my existence. The Ego is therefore at one and the same time both the activity and the product of activity; precisely as thought is both the thinking activity, and the product thought.

We will, for the present, spare the reader any further infliction of such logical abstractions. He will catch in the foregoing a glimpse of Fichte's method, and be in some way able to estimate the strength of the basis on which Idealism reposes.

The great point Fichte has endeavoured to establish is the identity of being and thought—of existence and consciousness—of object and subject. And he establishes this by means of the Ego considered as essentially an activity.

Hence the conclusion drawn in the practical part of his philosophy that the true destination of man is not thought, but action, which is thought realized. 'I am free,' he says. That is the revelation of consciousness. 'I am free; and it is not merely my action, but the free determination of my will to obey the voice of conscience, that decides all my worth. More brightly does the everlasting world now rise before me; and the fundamental laws of its order are more clearly revealed to my mental sight. My *will alone*, lying hid in the obscure depths of my soul, is the first link in a chain of consequences stretching through the invisible realms of spirit, as in this terrestrial world the action itself, a certain movement communicated to matter, is the first link in a material chain of cause and effect, encircling the whole system. The will is the efficient cause, the living principle of the world of spirit, as motion is of the world of sense. I stand between two worlds, the one visible, in which the act alone avails, and the intention matters not at all; the other invisible and incomprehensible, acted on only by the will. In both these worlds I am an effective force. The Divine life, as alone the finite mind can conceive it, is self-forming, self-representing will, clothed, to the mortal eye, with multitudinous sensuous forms, flowing through me and through the whole immeasurable universe, here streaming through my veins and muscles,—there, pouring its abundance into the tree, the flower, the grass. The dead, heavy mass of inert matter, which did but fill up nature, has disappeared, and, in its stead, there rushes by the bright, everlasting flood of life and power, from its Infinite Source.

'The Eternal Will is the Creator of the world, as he is the Creator of the finite reason. Those who will insist that the world must have been created out of a mass of inert matter, which must always remain inert and lifeless, like a vessel made by human hands, know neither the world nor Him. The Infinite Reason alone exists in himself—the finite in him; in our minds alone has he created a world, or at least that by and through which it becomes unfolded to us. In his light we behold the light, and all that it reveals. Great, living Will! whom no words can name, and no conception embrace! well may I lift up my thoughts to thee, for I can think only in thee. In thee, the Incomprehensible, does my own existence, and that of the world, become comprehensible to me; all the problems of being are solved, and the most perfect harmony reigns. I veil my face before thee, and lay my finger on my lips.'

## § IV. FICHTE'S IDEALISM.

The ground-principle of Fichte's idealism having been given, we have now to see how he avoids the natural objections which rise against such a doctrine. But first let us notice how this deification of personality was at once the most natural product of such a mind as Fichte's, and the best adapted to the spirit of the age which produced it. His doctrine was an inspiration of that ardent and exalted spirit which stirred the heart of Germany, and made the campaign of 1813 an epoch in history. Germany then was deficient in energetic will. It had armies, and these armies were headed by experienced generals. But among them there was scarcely another, beyond the impetuous Blücher, who had steadfast will. They were beaten and beaten. At length they were roused. A series of insults had roused them. They rose to fight for fatherland; and in their ranks was Fichte, who by deed as well as doctrine sought to convince them that in Will lay man's divinity.

The question being, *What is the relation of Object and Subject?* and Fichte's solution being *Object and Subject are identical*, it followed from his position that inasmuch as an Object and a Subject—a Non-Ego and an Ego—were given in knowledge, and the distinction between them by all men supposed to be real, the origin of this distinction must arise in one of two ways: either the Ego must posit the Non-Ego, wilfully and consciously (in which case mankind would never suppose the distinction to be a real distinction); or else the Ego must cause the Non-Ego to be, and must do so necessarily and unconsciously.

How does Fichte solve the problem? He assumes that the existence of the very Ego itself is *determined*[*] by the Non-Ego; and in this way: To be, and to be conscious, are the same. The existence of the Ego depends upon its consciousness. But to be conscious of Self is at the same time to be conscious of Not-Self; the correlates Self and Not-Self are given in the same act of consciousness. But how is it that we attribute reality to Not-self? Just as we attribute reality to Self, namely, by an act of Consciousness. Not-Self is given in Consciousness as a *reality*, and therefore we cannot suppose it to be a phantom.

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[*] The German word *bestimmen*, which we are forced to translate 'to determine,' is of immense use to the metaphysicians; we would gladly have substituted some other equivalent, could we have found one to represent the meaning better. To determine, in philosophy, does not mean (as in ordinary language), to resolve, but to render definite. Chaos, when *determined*, is the created world.

We may pause here to remark how all the witticisms against Idealism fall to the ground. The wits assume that when it is said the World is produced by the Ego, this World must be held as a phantom. Now nobody ever believed that external objects had no reality; the only possible doubt is as to whether they have any reality *independent* of mind.

In consciousness we have a twofold fact, namely, the fact of Self, and the fact of Not-Self, indissolubly given in one. We conclude therefore that Consciousness—that the Ego—is partly self-determined, and partly determined by not-self. Let us suppose the entire reality of the Ego (that is, in its identity of Subject and Object) represented by the number ten. The Ego, conscious of five of its parts—or, to speak with Fichte—*positing* five, does by that very act posit five parts *negatively* in itself. But how is it that the Ego can posit a negation in itself? It does so by the very act of Consciousness; in the act of separating five from ten, the five remaining are left passive. The negation is therefore the passivity of the Ego. This seems to lead to the contradiction that the Ego, which was defined as an Activity, is at the same time active and passive. The solution of this difficulty is that it is Activity which determines Passivity, and reciprocally. Let us suppose the absolute reality as a Sphere; this is entirely in the Ego, and has a certain quantity. Every quantity less than this totality will, of necessity, be negation, passivity. In order that a less quantity should be compared with the totality and so opposed to it, it is necessary there should be some relation between them; and this is in the idea of divisibility. In the absolute totality, as such, there are no parts; but this totality may be compared with parts and distinguished from it.

Passivity is therefore a determinate quantity of Activity, a quantity compared with the totality. In regard to the Ego as absolute, the Ego as limited is passive; in the relation of Ego as limited to the Non-Ego, the Ego is active and the Non-Ego passive. And thus are activity and passivity reciprocally determined.

The result of this and much more reasoning, is the hypothesis that when mankind attribute to objects a real existence they are correct; but they are incorrect in supposing that the Object is independent of the Subject: it is identical with the Subject. The common-sense belief is therefore correct enough. It is when we would rise above this belief, and endeavour to philosophize, that we fall into error. All the philosophers have erred, not in assuming the *reality* of objects, but in assuming the reality of *two* distinct, disparate existences, Matter and Mind; whereas we have seen that there is only one existence, having the twofold aspect of Object and Subject.

Nor is the distinction unimportant. If Dualism be accepted, we have no refuge from Scepticism. If we are to believe that *Dinge an sich* exist—that Matter exists independently of Mind, exists *per se*—then are we doomed to admit only a knowledge of phenomena as possible. The things in themselves we can never know; we can only know their effects upon us. Our knowledge is relative, and never can embrace the absolute truth.

But if Idealism be accepted, the ordinary belief of men is not only respected but confirmed; for this belief is that we *do* know things in themselves, and that the things we know *do* exist. The Dualist forces you to admit that you *cannot* know things in themselves; and that your belief in their existence is merely the postulate of your Reason, and is not *immediately* given in the facts of Consciousness. The Idealist, on the contrary, gives you an *immediate* knowledge of things in themselves, consequently opens to you the domain of absolute Truth. He only differs from you in saying that these things, which you immediately know, are part and parcel of yourself; and it is *because* you and they are indissolubly united, that immediate knowledge is possible.

'But,' says Realism, 'I know that objects are altogether independent of *me*. I did not create them. I found them there, *out* of me. The proof of this is that if, after looking at a tree, I turn away, or shut my eyes, the image of the tree is annihilated, but the tree itself remains.'

'No,' answers Idealism, 'the tree itself does not remain: for the tree is but a phenomenon, or collection of phenomena;—the tree is a Perception, and all perceptions are subjective. You suppose that every one must admit that our *perceptions* are different from their *objects*. But are they different? that is precisely the question at issue; and you assume it. Let us be cautious. What is an object—a tree for instance? Tell me, what does your Consciousness inform you of? Let me hear the fact, the whole fact, and no *inference* from the fact. Is not the *object* (tree) one and the same as your *perception* (tree)? Is not the tree a mere name for your perception? Does not your Consciousness distinctly tell you that the Form, Colour, Solidity, and Smell of the Tree are *in you*—are affections of your Subject?'

'I admit that,' replies Realism; 'but although these are *in me*, they are caused by something *out of me*. Consciousness tells me that very plainly.'

'Does it so? I tell you that Consciousness has no such power. It can tell you of its own changes; it cannot transcend itself to tell you anything about that which causes its changes.'

'But I am irresistibly compelled to believe,' says Realism, 'that there are things which exist *out* of me; and this belief, because irresistible, is true.'

'Stop! you run on too fast,' replies Idealism; your belief is not what you describe it. You are not irresistibly compelled to believe that things exist, which said things lie *underneath* all their appearances, and must ever remain unknown. This is no instinctive belief; it is a philosophic inference. Your belief simply is, that certain things, coloured, odorous, extended, sapid, and solid, exist; and s they do. But you infer that they exist *out* of you? Ras inference. Have you not admitted that colour, odour, tast extension, etc., are but modifications of your sentient being and if they exist *in* you, how can they exist *out* of you They do not: they seem to do so by a law of the mind whic gives objectivity to our sensations.' *

'Try your utmost to conceive an object as anything mo than a synthesis of perceptions. You cannot. You ma infer indeed that a *substratum* for all phenomena exist although unknown, unknowable. But on what is you inference grounded? On the impossibility of conceiving th existence of qualities—extension, colour, etc.—apart fron some substance *of which* they are qualities. This impossibility is a figment. The qualities have no need of an objective substratum, because they have a *subjective* substratum they are the modifications of a sensitive subject; and th synthesis of these modifications is the only substratum o which they stand in need. This may be proved in anothe way. The qualities of objects, it is universally admitted are but modifications of the subject: these qualities ar *attributed to* external objects; they are dependent upon th subject for their existence; and yet, to account for thei existence, it is asserted that some unknown external substanc must exist as a substance in which they must inhere. Now it is apparent that inasmuch as these qualities are subjective and dependent upon the subject for their existence, there can be no necessity for an object in which they must inhere.' Thus may Idealism defend itself against Realism.

We have made ourselves the advocates of Fichte's principles, but the reader will not mistake us for disciples of Fichte. In the exposition of his system we have, for obvious reasons, generally avoided his own manner, which is too abstract to be followed without difficulty, and we have endeavoured to state his ideas in our own way.

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* The difference between BERKELEY and FICHTE is apparent here. The former said that the objects *did* exist independent of the Ego, but did *not* exist independent of the universal Mind. FICHTE's Idealism was *Egoism*; BERKELEY's was a theological Idealism.

To exhibit Fichte's Idealism is, strictly speaking, all that our plan imposes on us; but although his philosophical doctrines are all founded upon it, and although it was the doctrine which made an epoch in German Philosophy, consequently the doctrine which entitles him to a place in this History, nevertheless we should be doing him injustice and misleading our readers if we did not give some glimpse of his moral system. The Idealism, as Idealism, seems little better than an ingenious paradox: only when we see it applied can we regard it as serious.*

## § V. APPLICATION OF FICHTE'S IDEALISM.

The Ego is essentially an Activity; consequently free. But this free activity would lose itself in infinity, and would remain without consciousness—in fact, without existence did it not encounter some *resistance*. In the effort to vanquish this resistance, it exerts its will, becomes conscious of something not itself, and *thereby* becomes conscious of itself. But resistance limits freedom, and as an Activity the Ego is essentially free—it is irresistibly impelled to enjoy perfect freedom. This expansive force, which impels the Ego to realize itself by complete development, and thereby assimilating the Non-Ego—this force, in as far as it is not realized, is the *aim* of man's existence—it is his duty.

Here a difference from the ordinary schools of morality begins to show itself. Duty is not a moral obligation which we are free to acknowledge or reject; it is a pulse beating in the very heart of man—a power inseparable from his constitution; and according to its fulfilment is the man complete.

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* Those who are curious to see what he himself makes of his system are referred to his *Wissenschaftslehre* (of which a French translation by M. PAUL GRIMBLOT exists under the title of *Doctrine de la Science*), or, as a more popular exposition, to his *Bestimmung des Menschen*, a French translation of which has been published by M. BARCHOU DE PENHOEN, under the title *Destination de l'Homme*, which from the character and learning of the translator, is, we have no doubt, an excellent version. An English translation has also been made by MRS. PERCY SINNETT, which can be recommended. FICHTE'S work, *The Nature of the Scholar*, has also recently appeared by MR. W. SMITH, who has also translated the *Characteristics of the Present Age*.

The world does not exist because we imagine it, but because we *believe* it. Let all reality be swept away by scepticism—we are not affected. Man is impelled by his very nature to realize his existence by his acts. Our destination is not thought, but action. Man is not born to brood over his thoughts, but to manifest them—to give them existence. There is a moral world *within*; our mission is to transport it *without*. By this we create the world. For what is the condition of existence?—what determines Thought to *be*? Simply that it should realize itself as an object. The Ego *as simple Subject* does not exist; it has only a potentiality of existence. To exist, it must realize itself and become *Subject-Object*.

Mark the consequence:—Knowing that we carry within us the moral world, and that upon ourselves alone depends the attainment of so sublime an object as the manifestation of this world, it is to ourselves alone that we must direct our attention. This realization of the world, what is it but the complete development of ourselves? If we would *be*, therefore—if we would enjoy the realities of existence, we must develope ourselves in the attempt to incessantly realize the beautiful, the useful, and the good. Man is commanded to be moral by the imperious necessity of his own nature. To be virtuous is not to obey some external law, but to fulfil an internal law: this obedience is not slavery, but freedom; it is not sacrificing one particle of freedom to any other power, but wholly and truly realizing the power within us of being free.

Life is a combat. The free spirit of man, inasmuch as it is finite, is limited, imperfect; but it incessantly struggles to subjugate that which opposes it—it tends incessantly towards infinity. Defeated in his hopes, he is sometimes discouraged, but this lasts not long. There is a well-spring of energy for ever vital in the heart of man; an ideal is for ever shining before him, and that he must attain.

Man knows himself to be free; knows also that his fellow-men are free; and therefore the duty of each is to treat the others as beings who have the same aim as himself. Individual liberty is therefore the principle of all government: from it Fichte deduces his political system.

And what says Fichte respecting God? He was, as we know, accused of atheism. Let us hear his real opinions. In his answer to that charge we have an abstruse, but at the same time positive, exposition of his views.* God created the world out of an inert mass of matter; and from the evidence of design in this created world we infer an intelligent designer. This is the common view; but Fichte could not accept it. In the first place, what we call the World is but the incarnation of our Duty (*unsere Welt ist das versinnlichte Material unserer Pflicht*). It is the objective existence of the Ego: we are, so to speak, the creators of it. Such a statement *looks* very like atheism, especially when Fichte's system is not clearly apprehended: it is, however, at the worst, only Acosmism.

Nor could Fichte accept the evidence of Design, because Design is a mere conclusion of the understanding, applicable only to finite, transient things, wholly inapplicable to the infinite: Design itself is but a subjective notion.†

'God,' says Fichte, 'must be *believed* in, not *inferred*. Faith is the ground of all conviction, scientific or moral. Why do you believe in the existence of the world? It is nothing more than the incarnation of that which you carry within you, yet you believe in it. In the same way God exists in your Consciousness and you believe in him. He is the Moral Order (*moralische Ordnung*) of the world: as such we can know him, and only as such. For if we attempt to attribute to him Intelligence or Personality, we at once necessarily fall into anthropomorphism. God is infinite:

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* *Gerichtliche Verantwortungsschriften gegen die Anklage des Atheismus.*

† *Ibid.* p. 43.

therefore beyond the reach of our *science*, which can only embrace the finite, but not beyond our *faith*.'*

By our efforts to fulfil our Duty, and thus to realize the Good and Beautiful, we are tending towards God, we live in some measure the life of God. True religion is therefore the realization of universal reason. If we were all perfectly free, we should be one; for there is but one Liberty. If we had all the same convictions, the law of each would be the law of all, since all would have but one Will. To this we aspire; to this Humanity is tending.

The germ of mysticism which lies in this doctrine was fully developed by some of Fichte's successors, although he himself had particularly guarded against such an interpretation, and distinguishes himself from the mystics.

Let us now pass to Fichte's Philosophy of History.

The historian only accomplishes half of the required task. He narrates the events of an epoch, in their order of occurrence, and in the form of their occurrence; but he cannot be assured that he has not omitted some of these events, or that he has given them their due position and significance. The philosopher must complete this incomplete method. He must form some idea of the epoch—an Idea *à priori*, independent of experience. He must then exhibit this Idea always dominant throughout the epoch—and manifesting itself in all the multiplicity of facts, which are but its incarnation. What is the world but an incarnation of the Ego? What is an epoch but an incarnation of an Idea?

Every epoch has therefore its pre-existent Idea. And this Idea will be determined by the Ideas of the epochs which have preceded it; and will determine those which succeed it. Hence we conclude that the evolutions of Ideas—or the History of the World—is accomplished on a certain *plan*. The philosopher must conceive this plan in its totality, that he may from it deduce the Ideas of the principal epochs in the history of Humanity, not only as past, but as future.

The question first to be settled is this: What is the ground-plan of the world? or, in other words, according to Fichte, What is the fundamental Idea which Humanity has to realize?

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* *Sittenlehre*, pp. 189, 194.

The answer is: The Idea of Duty. This, in its concrete expression, is: To fix the relations of man to man in such order that the perfect liberty of each be compatible with the liberty of the whole.

History may thus be divided into two principal epochs. The one, in which man has not established the social relations on the basis of reason. The other, in which he has established them, and knows that he has done so.

That Humanity exists but for the successive and constant realization of the dictates of reason is easily proved. But sometimes Humanity has knowledge of what it performs, and why it performs it; sometimes it obeys but a blind impulse. In this second case, that is to say, in the first epochs of the terrestrial existence of Humanity, Reason, although not manifesting itself distinctly, consciously, nevertheless exists. It manifests itself as an instinct, and appears under the form of a natural law: it manifests itself in the intelligence only as a vague and obscure sentiment. Reason, on the contrary, no sooner manifests itself as Reason, than it is gifted with consciousness of itself and its acts. This constitutes the second epoch.

But Humanity does not pass at once from the first to the second epoch. At first Reason only manifests itself in a few men, the Great Men of their age, who thereby acquire authority. They are the instructors of their age; their mission is to elevate the mass up to themselves. Thus Instinct diminishes, and Reason supervenes. Science appears. Morality becomes a science. The relations of man to man become more and more fixed in accordance with the dictates of reason.

The entire life of Humanity has five periods. I. The domination of Instinct over Reason: this is the primitive age. II. The general Instinct gives place to an external dominant Authority: this is the age of doctrines unable to convince, and employing force to produce a blind belief, claiming unlimited obedience; this is the period in which Evil arises. III. The Authority, dominant in the preceding epoch, but constantly attacked by Reason, becomes weak and wavering: this is the epoch of scepticism and licentiousness. IV. Reason becomes conscious of itself; truth makes itself known; the science of Reason developes itself: this is the beginning of that perfection which Humanity is destined to attain. V. The science of Reason is applied; Humanity fashions itself after the ideal standard of Reason: this is the epoch of Art, the last term in the history of our species.

# CHAPTER II.

## *SCHELLING.*

### § I. LIFE OF SCHELLING.

FREDERICK WILLIAM JOSEPH SCHELLING was born in Leonberg, in Würtemberg, 27th of January, 1775. At the University in Tübingen he first knew Hegel, and their friendship was enduring and productive. At Leipzig he studied Medicine and Philosophy; in the latter he became the pupil of Fichte. He afterwards filled Fichte's vacant chair at Jena, where he lectured with immense success. In 1807 he was made a member of the Munich Academy of Sciences. And in Bavaria, honoured, rewarded and ennobled, he remained till 1842, when the King of Prussia seduced him to Berlin; and there, in the chair once held by Hegel, he opened a series of lectures, in which he was to give the fruit of a life's meditation.

His appearance at Berlin was the signal for violent polemics. The Hegelians were all up in arms. Pamphlets, full of personalities and dialectics, were launched against Schelling, apparently without much effect. His foes at length grew weary of screaming; and he continued quietly to lecture. In 1845 I had the gratification not only of hearing him lecture on Mythology to large audiences, but also of hearing him in the expansiveness of private conversation pour forth his stores of varied knowledge. His intellectual vigour was such, that although seventy summers had whitened his hair, he seemed to have still a long lease of life; and indeed he continued nine years longer to inspire the respect of all who knew him. He died on the 20th August, 1854.

## § II. SCHELLING'S DOCTRINES.

Schelling is often styled the German Plato. In such parallels there is always some truth amidst much error. Schelling's works unquestionably exhibit great power of vivid imagination conjoined with subtle dialectics; if on this ground he is to be styled a Plato, then are there hundreds to share that title with him. His doctrines have little resemblance to those of his supposed prototype. Curiously enough, his head was marvellously like that of Socrates; not so ugly, but still very like it in general character.

Schelling may be regarded as having been the systematizer of a tendency, always manifesting itself, but then in full vigour in Germany—the tendency towards Pantheism. This tendency is not merely the offspring of mysticism. It may be recognized in the clear Goethe, no less than in the mystical Novalis. In some way or other, Pantheism seems the natural issue of almost every Philosophy of Religion, when rigorously carried out; but Germany, above all European countries, has, both in poetry and speculation, the most constantly reproduced it. Her poets, her artists, her musicians, and her thinkers, have been more or less pantheists. Schelling's attempt therefore to give Pantheism a scientific basis could not but meet with hearty approbation.

We may here once more notice the similarity, in historical position, of the modern German speculations to those of the Alexandrian Schools. In both the incapacity of Reason to solve the problems of Philosophy is openly proclaimed; in both some higher faculty is called in to solve them. Plotinus called this faculty *Ecstasy*. Schelling called it the *Intellectual Intuition*. The Ecstasy was not supposed to be a faculty possessed by all men, and at all times; it was only possessed by the few, and by them but sometimes.[*] The Intellectual Intuition was not supposed to be a faculty common to all men; on the contrary, it was held as the endowment only of a few of the privileged: it was the faculty for philosophising. Schelling expresses his disdain for those who talk about not comprehending the highest truths of Philosophy. 'Really,' he exclaims, 'one sees not wherefore Philosophy should pay any attention whatever to Incapacity. It is better rather that we should isolate Philosophy from all the ordinary routes, and keep it so separated from ordinary knowledge that none of these routes should lead to it. Philosophy commences where ordinary knowledge terminates.' * The highest truths of science cannot be proved, they must be apprehended; for those who cannot apprehend them there is nothing but pity: argument is useless.

After this, were we to call Schelling the German Plotinus, we should perhaps be nearer the truth than in calling him the German Plato. But it was for the sake of no such idle parallel that we compared the fundamental positions of each. Our object was to 'point a moral,' and to show how the same forms of error re-appear in history, and how the labours of so many centuries have not advanced the human mind in this direction one single step.

The first point to be established is the nature of Schelling's improvement upon Fichte: the relation in which the two doctrines stand to each other.

Fichte's Idealism was purely subjective Idealism. The Object had indeed reality, but was solely dependent upon the Subject. Endeavour as we might, we could never separate the Object from the Subject, we could never conceive a possible mode of existence without being forced to identify with it a Subject. Indeed the very conception itself is but an act of the Subject. Admitting that we are forced by the laws of our mental constitution to postulate an unknown something, a Noumenon, as the substance in which all phenomena inhere, what, after all, is this postulate? It is an act of the Mind; it is wholly subjective; the necessity for the postulate is a mental necessity. The Non-Ego therefore is the product of the Ego.

There is subtle reasoning in the above; nay more, it contains a principle which is irrefutable: the principle of the identity

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* *Neue Zeitschrift für speculative Physik*, ii. 34.

of Object and Subject in knowledge.* This Schelling adopted. Nevertheless, in spite of such an admission, the nullity of the external world was too violent and repulsive a conclusion to be long maintained; and it was necessary to see if the principle of identity might not be preserved, without forcing such a conclusion.

The existence of the objective world is as firmly believed in as the existence of the subjective: they are, indeed, both given in the same act. We cannot be conscious of our own existence without at the same time inseparably connecting it with some other existence from which we distinguished ourselves. So in like manner we cannot be aware of the existence of anything out of ourselves without at the same time inseparably connecting with it a consciousness of ourselves. Hence we conclude that both exist; not indeed separately, not independently of each other, but *identified* in some higher power. Fichte said that the Non-Ego was created by the Ego. Schelling said that the two were equally real, and that both were identified in the Absolute.

Knowledge must be knowledge of something. Hence knowledge implies the correlate of Being. Knowledge without an Object known, is but an empty form. But Knowledge and Being are correlates; they are not separable; they are identified. It is as impossible to conceive an Object known without a Subject knowing, as it is to conceive a Subject knowing without an Object known.

Nature is Spirit visible; Spirit is invisible Nature:† the absolute Ideal is at the same time the absolute Real.

Hence Philosophy has two primary problems to solve. In the *Transcendental Philosophy* the problem is to construct Nature from Intelligence—the Object from the Subject. In the *Philosophy of Nature* the problem is to construct Intelligence from Nature—the Subject from the Object.* And how are we to construct one from the other? Fichte has taught us to do so by the principle of the identity of Subject and Object, whereby the productivity and the product are in constant opposition, yet always one. The productivity (*Thätigkeit*) is the activity in act; it is the force which developes itself into all things. The product is the activity arrested and solidified into a fact; but it is always ready to pass again into activity. And thus the world is but a balancing of contending powers within the sphere of the Absolute.

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* This is the stronghold of Idealism, and we consider it impregnable, so long as men reason on the implied assumption, that whatever is true in human knowledge is equally true (i. e. actually so co-ordinated) in *fact*; that as things appear *to us* so they are *per se*. And yet without this assumption Philosophy is impossible.

† Our readers will recognise here a favourite saying of COLERIDGE, many of whose remarks, now become famous, are almost *verbatim* translations from SCHELLING and the two SCHLEGELS.

In what, then, does Schelling differ from Fichte, since both assert that the product (Object) is but the arrested activity of the Ego? In this: the Ego in Fichte's system is a finite Ego—it is the human soul. The Ego in Schelling's system is the Absolute—the Infinite—the All which Spinoza called Substance; and this Absolute manifests itself in two forms: in the form of the Ego and in the form of the Non-Ego—as Nature and as Mind.

The Ego produces the Non-Ego, but not by its own force, not out of its own nature; it is universal Nature which works within us and which produces from out of us; it is universal Nature which here in us is conscious of itself. The souls of men are but the innumerable individual eyes with which the Infinite World-Spirit beholds himself.

What is the Ego? It is one and the same with the act which renders it an Object to itself. When I say 'myself'—when I form a conception of my Ego, what is that but the Ego making itself an Object? Consciousness therefore may be defined the objectivity of the Ego. Very well; now apply this to the Absolute. He, too, must be conscious of himself, and for that he must realize himself objectively. We can now understand Schelling when he says, 'The blind and unconscious products of Nature are nothing but unsuccessful attempts of Nature to make itself an Object (*sich selbst zu reflectiren*); the so-called dead Nature is but an unripe Intelligence. The acme of its efforts—that is, for Nature completely to objectize itself—is attained through the highest and ultimate degree of reflection in Man—or what we call *Reason*. Here Nature returns into itself, and reveals its identity with that which in us is known as the Object and Subject.' *

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* *System des transcendentalen Idealismus*, p. 7.

This function of Reason is elsewhere more distinctly described as the total *indifference-point* of the subjective and objective. The Absolute he represents by the symbol of the magnet. Thus, as it is the same principle which divides itself in the magnet into the north and south poles, the centre of which is the indifference-point, so in like manner does the Absolute divide itself into the Real and Ideal, and holds itself in this separation as absolute indifference.† And as in the magnet every point is itself a magnet, having a North pole, a South pole, and a point of indifference, so also in the Universe, the individual varieties are but varieties of the eternal One. Man is a microcosm.

Reason is the indifference-point. Whoso rises to it rises to the *reality* of things (*zum wahren Ansich*), which reality is precisely in the indifference of Object and Subject. The basis of Philosophy is therefore the basis of Reason; its knowledge is a knowledge of things as they are, i. e. as they are in Reason.‡

The spirit of Plotinus revives in these expressions. We have in them the whole key-stone of the Alexandrian School. The Intellectual Intuition by which we are to embrace the Absolute, is, as before remarked, but another form of the Alexandrian Ecstasy. Schelling was well aware that the Absolute, the Infinite as such, could not be known under the conditions of finity, cannot be known in personal consciousness. How, then, can it be known? By some higher faculty which discerns the identity of Object and Subject—which perceives the Absolute as Absolute, where all difference is lost in indifference.

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* *System des transcendentalen Idealismus*, p. 5.

† Hence SCHELLING's philosophy is often styled the Indifference Philosophy.

‡ *Zeitschrift für speculative Physik*, vol. ii. heft 2.

There are three divisions in Schelling's system: the philosophy of Nature, the transcendental philosophy, and the philosophy of the Absolute.

His speculations with respect to Nature have met with considerable applause in Germany. Ingenious they certainly are, but vitiated in Method; incapable of verification. Those who are curious to see what he makes of Nature are referred to his *Zeitschrift für speculative Physik*, and his *Ideen zu einer Philosophie der Natur*. The following examples will serve to indicate the character of his speculations.[*]

Subject and Object being identical, the absolute Identity is the absolute totality named Universe. There can be no difference except a *quantitative* difference; and this is only conceivable with respect to individual existences. For the absolute Identity is *quantitative indifference* both of Object and Subject, and is only under this form. If we could behold all that is, and behold it in its totality, we should see a perfect quantitative equality. It is only in the scission of the Individual from the Infinite that quantitative difference takes place. This difference of Object and Subject is the ground of all finity: and, on the other hand, quantitative indifference of the two is Infinity.

That which determines any difference is a Power (*Potenz*), and the Absolute is the Identity of all Powers (*aller Potenzen*). All matter is originally liquid; *weight* is the power through which the Attractive and Expansive force, as the immanent ground of the reality of Matter, operates. Weight is the first *Potenz*. The second *Potenz* is Light—an inward intuition of Nature, as weight is the outward intuition. Identity with light is Transparency. Heat does not pertain to the nature of Light, but is simply a *modus existendi* of Light. Newton's speculations upon Light are treated with disdain, as a system built upon illogical conclusions, a system self-contradictory, and leading to infinite absurdities. Nevertheless this absurd system has led men to many discoveries: it is the basis of a gradually advancing science; while the views of Schelling lead to nothing except disputation. Thus, with regard to his explanation of Electricity: let us suppose it exact, and we must still acknowledge it to be useless. It admits of no verification; admits of no application. It is utterly sterile.

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[*] The reader must not complain if he do not understand what follows; intelligibility is not the characteristic of German speculation; and we are here only translating Schelling's words, without undertaking to enlighten their darkness.

There are indeed general ideas in his *Natur-Philosophie*, which not only approach the conceptions of positive science, but have given a powerful stimulus to many scientific intellects. The general law of polarity, for example, which he makes* the law of universal nature, is seen illustrated in physics and chemistry; although the presumed relation between heat and oxygen, which he makes the basis of all atomic changes, no chemist will nowadays accept. When, in the second part of this treatise, he theorizes on organic life, the result is similar, namely some general ideas which seem luminous are enforced by particular ideas certainly false. He maintains that vegetation and life are the products of chemical action: the first consisting in a continual deoxidation, the second in a continual oxidation; as soon as this chemical action ceases, death supervenes, for living beings exist only in the moment of *becoming*.† He only expresses the universally accepted idea of life when he makes it depend on the incessant disturbance and re-establishment of an equilibrium,‡ or, as De Blainville defines it, 'a continual movement of decomposition and recomposition.'

All the functions of Life are but the individualizations of one common principle; and all the series of living beings are but the individualizations of one common Life: this is the *Weltseele*, or *anima mundi*. The same idea had been expressed by Goethe, and has since been presented under various forms by Oken and many German naturalists. The idea of a dynamic progression in Nature, is also the fundamental idea in Hegel's philosophy.

Schelling, in his *Jahrbücher der Medicin*, says that Science is only valuable in as far as it is *speculative*; and by speculation he means the contemplation of God as He exists. Reason, inasmuch as it affirms God, cannot affirm anything else, and annihilates itself at the same time as an *individual* existence, as anything *out of* God. Thought (*das Denken*) is not my Thought; and Being is not my Being; for everything belongs to God or the All. There is no such thing as a Reason which *we have*; but only a Reason that *has us*. If nothing exists out of God, then must the knowledge of God be only the infinite knowledge which God has of himself in the eternal Self-affirmation. God is not the highest, but the only One. He is not to be viewed as the summit or the end, but as the centre, as the All in All. Consequently there is no such thing as a being lifted up to the knowledge of God; but the knowledge is *immediate* recognition.

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* *Von der Weltseele*, 25 sq. † *Ibid.* p. 181. ‡ *Ibid.* p. 284.

If we divest Schelling's speculations of their dialectical forms, we shall arrive at the following results:—

Idealism is one-sided. Beside the Subject there must exist an Object: the two are identical in a third, which is the Absolute. This Absolute is neither Ideal nor Real—neither Mind nor Nature—but both. This Absolute is God. He is the All in All: the eternal source of all existence. He realizes himself under one form, as an objectivity; and under a second form as a subjectivity. He becomes conscious of himself in man: and this man, under the highest form of his existence, manifests Reason, and by this Reason God knows himself. Such are the conclusions to which Schelling's philosophy leads us. And now, we ask, in what does this philosophy differ from Spinozism?

The Absolute, which Schelling assumes as the indifference-point of Subject and Object, is but the *πρῶτον ἀγαθὸν* and primal Nothing, which forms the first Hypostasis of the Alexandrian Trinity. The Absolute, as the Identity of Subject and Object, being neither and yet both, is but the Substance of Spinoza, whose attributes are Extension and Thought.

With Spinoza also he agreed in giving only a phenomenal reality to the Object and Subject. With Spinoza he agreed in admitting but one existence—the Absolute.

But, although agreeing with Spinoza in his fundamental positions, he differed with him in Method, and in the applications of those positions. In both differences the superiority, as it seems to me, is incontestably due to Spinoza.

Spinoza deduced his system very logically from one fundamental assumption, viz. that whatever was true of ideas was true of objects. This assumption itself was not altogether arbitrary. It was grounded upon the principle of certitude, which Descartes had brought forward as the only principle which was irrefragable. Whatever was found to be distinct and *à priori* in Consciousness, was irresistibly true. Philosophy was therefore deductive; and Spinoza deduced his system from the principles laid down by Descartes.

Schelling's Method was very different. Aware that human knowledge was necessarily finite, he could not accept Spinoza's Method, because that would have given him only a knowledge of the finite, the conditioned; and such knowledge, it was admitted, led to scepticism. He was forced to assume another faculty of knowing the truth, and this was the Intellectual Intuition. Reason which could know the Absolute was only possible by transcending Consciousness and sinking into the Absolute. As Knowledge and Being were identical, to know the Infinite, we must *be* the Infinite, i.e. must lose our individuality in the universal.

Consciousness, then, which had for so long formed the basis of all Philosophy, was thrown over by Schelling, as incompetent to solve any of its problems. Consciousness was no ground of certitude. Reason was the organ of Philosophy, and Reason was *impersonal*. The Identity of Being and Knowing took the place of Consciousness, and became the basis of all speculation. We shall see to what it led in Hegel.

Our notice of Schelling has necessarily been brief, not because he merited no greater space, but because to have entered into details with any satisfaction, would have carried us far beyond our limits. His works are not only numerous, but differ considerably in their views. All we have endeavoured to represent is the ideas which he produced as developments of Fichte, and which served Hegel as a basis.*

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* A French translation of SCHELLING's most important work, under the title of *Système de l'Idéalisme transcendental*, by P. GRIMBLOT, the translator of FICHTE, has appeared; also a version of *Bruno; ou, Les Principes des Choses.* Nothing in English.

## CHAPTER III.

### *HEGEL.*

### § I. LIFE OF HEGEL.

GEORGE FREDERICK WILLIAM HEGEL was born at Stuttgard, the 27th of August, 1770. He received that classical education which distinguished the Wirtembergian students beyond all others; and in his eighteenth year he went to Tübingen, to pursue his theological and philosophical studies. He was there a fellow-student with Schelling, for whom he contracted great esteem. The two young thinkers communicated to each other their thoughts, and discussed their favourite systems. In after-life, when opposition had sundered these ties, Hegel never spoke of this part of their connection without emotion. In his twentieth year he had to give up all his plans for a professorship, and was content (hunger impelling) to accept the place of private tutor, first in Switzerland, and subsequently in Frankfort.

Early in 1801 his father died; and the small property he inherited enabled him to relinquish his tutorship and to move to Jena, where he published his dissertation *De Orbitis Planetarum.* This work was directed against the Newtonian system of Astronomy. It was an application of Schelling's Philosophy of Nature; and in it Newton was treated with that scorn which Hegel never failed to heap upon Empirics, i.e. those who trusted more to experience than to metaphysics. In the same year he published his *Difference between Fichte and Schelling,* in which he sided with the doctrines of his friend, whom he joined in editing the *Critical Journal of*

*Philosophy.* It is in the second volume of this Journal that we meet with his celebrated essay *Glauben und Wissen* (Faith and Knowledge), in which Kant, Jacobi, and Fichte are criticized.

At Jena he enjoyed the society of Goethe and Schiller. The former, with his usual sagacity, detected the philosophical genius which as yet lay undeveloped in Hegel; of which more may be read in Goethe and Schiller's *Correspondence.* Hegel, on the other hand, was to the last one of Goethe's staunchest admirers; and many a gleam of lustre is shed over the pages of the philosopher by the frequent quotations of the poet.

At the University of Jena, Hegel then held the post of *Privatdocent*; but his lectures had only four listeners. These four however were all remarkable men: Gabler, Troxler, Lachmann, and Zellmann. On Schelling's quitting Jena, Hegel filled his chair; but filled it only for one year. Here he published his *Phänomenologie des Geistes.* He finished writing this work on the night of the ever-memorable battle of Jena. While the artillery was roaring under the walls, the philosopher was deep in his work, unconscious of all that was going on. He continued writing, as Archimedes at the siege of Syracuse continued his scientific researches. The next morning, manuscript in hand, he steps into the streets, proceeding to his publisher's, firmly convinced that the interests of mankind are bound up with that mass of writing which he hugs so tenderly. The course of his reverie is somewhat violently interrupted; bearded and gesticulating French soldiers arrest the philosopher, and significantly enough inform him that, for the present, the interests of men lie elsewhere than in manuscripts. In spite of French soldiers, however, the work in due time saw the light, and was welcomed by the philosophical world as a new system or rather as a new modification of Schelling's system. The editorship of the Bamberg newspaper was then offered him, and he quitted Jena. He did not long remain at Bamberg; for in the autumn of 1808 we find him Rector of the Gymnasium College at Nürnberg. He shortly after married

Fräulein von Tucher, with whom he passed a happy life: she bore him two sons. In 1816 he was called to the chair of Heidelberg, and published in 1817 his *Encyclopädie der philosophische Wissenschaften*, which contains an outline of his system. This work so exalted his reputation that in 1818 he was called to the chair of Berlin, then the most important in Germany. He there lectured for thirteen years, and formed a school, of which it is sufficient to name its members, Gans, Rosenkranz, Michelet, Werder, Marheinecke, and Hotho.

Hegel was seized with the cholera in 1831, and after a short illness expired, in the sixty-second year of his age, on the 24th of November, the anniversary of the death of Liebnitz.

## § II. HEGEL'S METHOD.

Schelling's doctrines were never systematically co-ordinated. He was subtle, ardent, and audacious; but he disregarded precision; and stood in striking contradiction to his predecessors Kant and Fichte in the absence of logical forms.

The effect of his teaching was felt more in the department of the philosophy of Nature than elsewhere. Crowds of disciples, some of them, as Oken and Steffens, illustrious disciples, attempted the application of his principles; and after a vast quantity of ingenious but sterile generalization, it was found that these principles led to no satisfactory conclusion.

Schelling's ideas were however very generally accepted in the philosophical world at the time Hegel appeared. These ideas were thought to be genuine intuitions of the truth; the only drawback was their want of systematic co-ordination. They were inspirations of the truth; and demonstrations were needed. The position Hegel was to occupy became therefore very clear. Either he must destroy those ideas and bring forward others; or he must accept them, and, in accepting, systematize them. This latter was no easy task, and this was the task he chose. In the course of his labours he deviated somewhat from Schelling, because the rigorous conclusions of his logic made such deviations necessary; but these are, after all, nothing but modifications of Schelling's ideas; very often nothing but different expressions for the same ideas.

What then constitutes Hegel's glory? What is the nature of his contribution to philosophy, which has placed him on so high a pedestal of renown? It is nothing less than the invention of a new Method.*

The invention of a Method has always been considered the greatest effort of philosophical genius, and the most deserving of the historian's attention. A Method is a *path of transit.* Whoso discovers a path whereon mankind may travel in quest of truth, has done more towards the discovery of truth than thousands of men merely speculating. What had the observation and speculation of centuries done for astronomy before the right path was found? And if a Method could be found for Philosophy—if a path of transit from the phenomenal to the noumenal world could be found—should we not then be quickly in possession of the truth?

A Method is all-important. The one invented by Descartes seemed promising; but it led to Malebranche and Spinoza. The one invented by Locke had obvious excellencies; but it was a path of transit to Berkeley and Hume. That of Kant led to Fichte and Scepticism.

Curious to consider! In the modern as in the ancient world, the inevitable results of a philosophical Method are Idealism and Scepticism. One class of minds is led to Idealism or Mysticism; another class is led to Scepticism. But as both these conclusions are repugnant to the ordinary conclusions of mankind, they are rejected, and the Method which led to them is also rejected. A new one is found; hopes beat high; truth is about to be discovered; the search is active, and the result—always the same—repugnant

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* This is the claim put up by his disciple MICHELET, *Gesch. der Systeme der Philos.* ii. 604–5; who declares HEGEL's method to be all that can properly be called his own. Comp. HEGEL's *Vermischte Schriften*, ii. 479.

Idealism or Scepticism. Thus struggling and baffled, hoping and dispirited, has Humanity for ever renewed the conflict, without once gaining a victory. Sisyphus rolls up the heavy stone, which no sooner reaches a certain point than down it rolls to the bottom, and all the labour is to begin again.

We have already traced the efforts of many noble minds; we have seen the stone laboriously rolled upwards, and seen it swiftly roll down again. We have seen Methods discovered; we have followed adventurous spirits as they rushed forward to conquest; and seen the discouragement, the despair which possessed them as they found their paths leading only to a yawning gulf of Scepticism, or a baseless cloud-land of Idealism. We have now to witness this spectacle once more. We have to see whither Hegel's Method can conduct us.

And what is this Method which Hegel discovered? Accepting as indisputable the identity of Object and Subject,* he was forced also to accept the position, that whatever was true of the thought was true of the thing. In other words, Mind and Matter being identical, Ideas and Objects were correlates, and equally true. This is the position upon which Descartes stood; the position upon which Spinoza stood. Schelling and Hegel arrived at this position by a different route, but they also took their stand upon it.

Now, it is evident that such a position is exposed to attacks on all sides; to none more so than to the contradictions which rise up from within it. If whatever is true of Ideas is true also of Objects, a thousand absurdities bristle up. Thus, as Kant said, there is considerable difference between *thinking* we possess a hundred dollars, and *possessing* them. Hegel's answer is delicious: he declares that 'Philosophy does not concern itself with such things as a hundred dollars!' (*daran ist philosophisch nichts zu erkennen*). Philosophy directs its thoughts only towards that which is necessary and eternal.

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* The fallacy is patent: Because the objective and subjective are identical in consciousness, because each act of the mind involves the two factors, the false conclusion is drawn that the two factors are one; but they are only one in consciousness, they are diverse in fact.

Very well: let such miserable illustrations as that of dollars be banished from discourse; let us concern ourselves only with what is necessary and eternal; let us confine ourselves to abstractions. Are there no contradictions here between Thoughts and Realities? For example, we have the Thought of Non-existence: does therefore this Non-existence which is in our Thought also possess an objective being? *Is* there a Non-existence?

We have chosen this idle question, because Hegel himself has forced us to it. He boldly says, that the Non-existence—the Nothing—*exists*, because it is a Thought (das Nichts *ist*; denn es ist ein Gedanke). It is not however merely a Thought, but it is the same Thought as that of pure Being (*Seyn*), viz. an entirely *unconditioned* Thought.

In this, coupled with his famous axiom, that 'Being and Non-Being are the same,' we have two of the curious results to which his Method led him. It was the Method of Descartes, founded upon the principle of the truth of *ideas* being equivalent to the truth of *things*; but inasmuch as this met with strong opposition from various sides, Hegel resolved to give it a deeper, firmer basis, a basis that went underneath these contradictions. The basis was his principle of the *identity of contradictories*.

Two contradictories are commonly supposed to exclude each other reciprocally: Existence excludes Non-Existence. This notion Hegel pronounces to be false. Everything is contradictory in itself; contradiction forms its essence: its identity consists in being the union of two contradictories. Thus Being (*Seyn*) considered absolutely—considered as unconditioned—that is to say, as Being in the abstract, apart from any individual thing, is the same as Nothing. Existence is therefore identical with its negation. But to conclude that there is not Existence, would be false: for the abstract Nothing (*Nichts*) is at the same time the abstract Being. We must therefore unite these two contraries, and in so doing we arrive at a middle term—the realization * of the two in one, and this is *conditioned* Existence—it is the world.

Here is another example: in pure light,—that is, light without colour or shadow,—we should be totally unable to see anything. Absolute clearness is therefore identical with absolute obscurity—with its negation, in fact; but neither clearness nor obscurity are complete alone: by uniting them we have clearness mingled with obscurity; that is to say, we have Light properly so called.

Hegel thus seized the bull by the horns. Instead of allowing himself to be worsted by the arguments derived from the contradictions to which the identity of Existence and Knowledge was exposed, he at once met the difficulty by declaring that the identity of contraries was the very condition of all existence; without a contrary nothing could come into being. This was logical audacity which astounded his countrymen, and they have proclaimed this feat worthy of immortal glory. A new light seemed to be thrown upon the world: a new aspect was given to all existences. Being was at the same time Non-Being; Subject was at the same time Object; and Object was Subject: Force was at the same time Impotence; Light was also Darkness, and Darkness was also Light.

Nothing in this world is single;
All things, by a law divine,
In one another's being mingle.

The merit of this discovery, whatever may be its value, is considerably diminished when we remember how distinctly it was enunciated in ancient Greece. Heraclitus had told us how 'All is, and is not; for though it comes into being, yet it forthwith ceases to be.' Empedocles had told us how there was 'Nothing but a mingling and then a separation of the mingled.' Indeed the constant flux and reflux of life, the many changes, and the compound nature of all things, must early have led men to such a view. Hegel himself admits that all the positions maintained by Heraclitus have been by him developed in his Logic. What then was wanting to Heraclitus—what is the great merit of Hegel? A perception of the logical law of the identity of contradictories. To this Hegel has the sole claim.

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* The original word is *Werden*—the becoming. It is much used in German speculation to express the transition from Non-being to Being.

Here, then, is the foundation-stone of Hegel's system. He adopts the principle of the identity of Subject and Object. To those who assert that this principle is false, because it leads to manifest contradictions, Hegel replies that the principle is true; and that it *must* lead to contradictions, because the identity of contradictories is the condition of all existence.

Want of space, and a conviction of the essential worthlessness of Hegel's system, forbid my entering into any discussion of the various positions; but respecting this fundamental position of *Seyn* and *Nicht-Seyn* as identical, it may be worth while to point out the fallacy on which it rests. Being and Non-Being are identical only in the single respect of being both *indeterminate*; they have the identity which consists in equal freedom from predicable attributes; but as Objects, i.e. as existences, or thoughts, they are not identical, but opposite. Hegel might as well argue that Russians and Hottentots were identical, because they were both not English.

Such is the Method which admiring disciples extol as the greatest effort of Philosophy, as the crown of all previous speculations; and which even in France has been in some quarters accepted as a revelation.

The *law* being given, we may now give the *process*. Let us take any one Idea (and with Hegel an Idea is a reality, an Object, not simply a modification of the Subject); this Idea by its inherent activity tends to develope that which is within it. This developement operates a division of the Idea into two parts—a positive and a negative. Instead of one Idea we have therefore two, which reciprocally exclude each other. The Idea therefore, by the very act of development, only conduces to its own negation. But the *process* does not stop there. The negation itself must be negatived. By this negation of its negation, the Idea returns to its primitive force. But it is no longer the same. It has developed all that it contained. It has absorbed its contrary. Thus the negation of the negation, by *suppressing* the negation, at the same time *preserves* it.*

We may, by way of anticipation, observe that Hegel's notion of God becoming conscious of Himself in Philosophy, and thereby attaining his highest development, is founded on the above process. God as pure Being can only pass into reality through a negation; in Philosophy he *negatives this negation*, and thus becomes a *positive* affirmation.

## § III. ABSOLUTE IDEALISM.

We have seen Hegel's Method. Whether that be a path of transit to the domain of truth, or only to the cloudland of mysticism and the bogs of absurdity, our readers will very soon decide. Meanwhile we must further detail Hegel's opinions; we must see whither his Method did lead him.

As everything contains within itself a contradiction, and as the identity of the two constitutes its essence, so we may say that Schelling's conception of the identity of Subject and Object was not altogether exact. He assumed the reality of both of these *poles* of the magnet; and the identity he called the point of indifference between them. These two extremities were always separate, though identified. Hegel declared that the essence of all relation—that which is true and positive in every relation—is not the *two terms related*, but the *relation itself*. This is the basis of Absolute Idealism.

It may be thus illustrated; I see a tree. Certain psychologists tell me that there are three things implied in this one fact of vision, viz. a tree, an image of that tree, and a mind which apprehends that image. Fichte tells me that it is I alone who exist: the tree and the image of the tree are but one thing, and that is a modification of my mind. This is *Subjective Idealism.* Schelling tells me that both the tree and my Ego are existences equally real or ideal, but they are nothing less than manifestations of the Absolute. This is *Objective Idealism.* But, according to Hegel, all these explanations are false. The only thing really existing (in this one fact of vision) is the Idea—the *relation.* The Ego and the Tree are but two terms of the relation, and owe their reality to it. This is *Absolute Idealism.*

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* This play upon words is assisted by the German *aufheben*, which means 'to suppress' as well as 'to preserve.' See OTT, *Hegel et la Philos. Allemande*, p. 80.

Of the three forms of Idealism this is surely the most preposterous; and that any sane man—not to speak of a man so eminent as Hegel—should for an instant believe in the correctness of the logic which 'brought him to this pass,'—that he should not at once reject the premisses from which such conclusions followed,—must ever remain a wonder to all sober thinkers,—must ever remain a striking illustration of the unbounded confidence in bad logic which distinguishes Metaphysicians, a race mad with logic, and feeding its mind with chimeras.

> 'Gens ratione ferox, et mentem pasta chimæris.'

What does this Absolute Idealism bring us to? It brings us to a world of mere 'relations.' The Spinozistic notion of 'Substance' was too gross. To speak of Substance, was to speak only of *one* term of a relation. The Universe is but the Universe of Ideas, which are at once both objective and subjective, their essence consisting in the relation they bear to each other, in the identity of their contradiction.

Remark also that this Absolute Idealism is nothing but Hume's Scepticism, in a dogmatical form. Hume denied the existence of Mind and Matter, and said there was nothing but Ideas. Hegel denies the existence of both Object and Subject, and says there is nothing but the 'relations' of the two. He blames Kant for having spoken of Things as if they were only appearances to us (*Erscheinungen für uns*) while their real nature (*Ansich*) was inaccessible. The real relation, he says, is this: that the Things we know are not only appearances to us, but are in themselves mere appearances (*sondern an sich blosse Erscheinungen*). The real objectivity is this: that our Thoughts are not only Thoughts, but at the same time are the reality of Things.*

This is *the* Philosophy—not *a* Philosophy, remember—not a system which may take its place amongst other systems. No, it is the Philosophy *par excellence*. We have Hegel's word for it; † we have the confirmation of that word by many ardent disciples. True it is, that some of the young Hegelians, when reproached with the constant changes they introduce, reply that it belongs to the nature of Philosophy to change. But these are inconsiderate, rash young men. Mature and sober thinkers (of Hegel's school) declare that, although some improvements are possible in detail, yet on the whole Hegel has given *the* Philosophy to the world.

And this philosophy is not a system of doctrines whereby man is to guide himself. It is something far greater. It is the contemplation of the self-development of the Absolute. Hegel congratulates mankind upon the fact of a new epoch having dawned. 'It appears,' says he, 'that the World-Spirit (*Weltgeist*) has at last succeeded in freeing himself from all encumbrances, and is able to *conceive himself as Absolute Intelligence* (*sich als absoluten Geist zu erfassen*). . . . For he is this only in as far as he knows himself to be the Absolute intelligence: *and this he knows only in Science; and this knowledge alone constitutes his true existence*.'‡

Such pretensions would be laughable, were they not so painful to contemplate. To think not only of one man, and that one remarkable for the subtlety of his intellect, a subtlety which was its bane, together with many other men—some hundred or so, all rising above the ordinary level of ability—one and all cultivating as the occupation of their lives a science with such pretensions, and with such a Method as that of the identity of contradictories! The delusions daily to be seen are those of ignorance, and only depend upon ignorance. But the delusions of Metaphysics are the delusions of an ambitious intelligence which 'o'er-leaps itself.' Men such as Fichte, Schelling, and Hegel, for example, belong incontestably to a high order of intelligences; yet we have seen to what their reasonings brought them; we have seen what absurdities they could accept, believing they had found the truth. Hegel especially impresses you with a sense of his wonderful power. His works I have always found very suggestive and very exasperating; his ideas, repugnant to what I regard as the truth, are yet so coherent, so systematically developed, so obviously coming from matured meditation, that I have always risen from the perusal with a sense of the author's greatness, and deep regret at such a waste of power. His *Lectures on Æsthetics*, his *History of Philosophy*, his *Philosophy of History*, and his *Philosophy of Religion*, are especially worthy of an attentive study.

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* 'Dass die Gedanken nicht bloss unsere Gedanken, sondern zugleich das Ansich der Dinge und des Gegenständlichen überhaupt sind.'—*Encyclopädie*, p. 89; see also p. 97. The whole of this Introduction to the *Encyclopädie* is worth consulting.

† *Gesch. der Philos.* iii. 690.

‡ *Ibid.* iii. 689.

As for the system itself, we may leave to all readers to decide whether it be worthy of any attention, except as an illustration of the devious errors of speculation. A system which begins with assuming that Being and Non-Being are the same, because Being in the abstract must be conceived as the Unconditioned, and so must Non-Being, therefore both, as unconditioned, are the same; a system which proceeds upon the identity of contradictories as the method of Philosophy; a system in which the only real positive existence is that of simple Relation, the two terms of which are Mind and Matter; this system, were it wholly true, leaves all the questions for which science is useful just as much in the dark as ever, and is therefore unworthy the attention of earnest men working for the benefit of mankind.

The futility may be estimated by a glance at the solutions of soluble problems which it offers. Nothing can exceed the ingenuity of nonsense exhibited by Hegel when he treats of questions which, as coming within the range of Verification, should, if his system were true, present the most convincing evidence of its truth. He might ridicule Newton and the empirical school to his heart's content, did he not exhibit the ridiculous spectacle of his own hopeless failure to solve the problems approximately solved by Newton and the empirics. Surely a system which has disclosed the highest truths, ought to have some illumination for the lower truths? A man who has sounded the depths of Being, ought to be able to state some of the simple laws of Phenomena? A man who can follow the development of the Cosmos, ought to have some insight into cosmical laws? But what is the fact in Hegel's case? He has not only failed to discover a single law or to establish a single induction in the region of natural phenomena, but has vehemently opposed some of the best established inductions of previous thinkers. In Astronomy, Physics, Chemistry, Biology, Psychology—though all these subjects have been treated by him—his system is utterly useless.

Not only is it useless; it is worse, it is pernicious. The facility with which men can throw all questions into systematic obscurity by the aid of Metaphysics, has long been the bane of Germany. In England and France we have been saved from perpetuating the frivolous discussions of the Schoolmen, mainly because we have retained their nomenclature and terminology, and are warned by these from off scholastic ground; but the Germans, having invented a new philosophical language, do not perceive that the new terms disguise old errors: they fail to recognise in *Irrlicht* the familiar face of *Ignis fatuus*.

## § IV. HEGEL'S LOGIC.

Philosophy being the contemplation of the self-development of the Absolute, or, as Hegel sometimes calls it, the representation of the Idea (*Darstellung der Idee*), it first must be settled in what directions this development takes place.

The process is this. Everything must be first considered *per se* (*an sich*); next in its negation, as some *other* thing

(*Andersseyn*). These are the two terms—the contradictories; but they must be identified in some third, or they cannot exist; this third is the Relation of the two (the *Anundfürsichseyn*). This is the affirmation which is founded on the negation of a negation: it is therefore positive, real.

The Absolute, which is both Thought and Being, must be considered in this triple order, and Philosophy falls into three parts:—

I. LOGIC, the science of the *Idee* * *an und für sich.*

II. NATURE-PHILOSOPHY as the science of the *Idee* in its *Andersseyn.*

III. PHILOSOPHY OF INTELLIGENCE, as the *Idee* which has returned from its *Andersseyn* to itself.

Logic, in this system, has a very different meaning from that usually given to the word. It is, indeed, equally with the common logic, an examination of the forms of Thought; but it is more:—it is an examination of Things, no less than of Thoughts. As Object and Subject are declared identical, and whatever is true of the Thought is equally true of the Thing, since the Thought is the thing. Logic, of course, takes the place of the ancient Logic and, at the same time, of Metaphysics. It is the generation of all abstract ideas. Consequently it contains the whole system of Science; and the other parts are but the application of this Logic.

Hegel's *Logic* is contained in three stout volumes of dry hard scholasticism. It is a representation of the *Idee*, in its process of pure thought, free from all contact with objects. It is wholly abstract. It begins with pure Being. This pure Being, in virtue of its purity, is *unconditioned*; but that which has no conditions has no existence: it is a pure abstraction. Now a pure abstraction is also the *Nothing* (*das Nichts*): it also has no conditions: its unconditionalness makes its nothingness. The first proposition in Logic is, therefore, 'Being and Non-Being are the same.'

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* The *Idee* is but another term for the Absolute. We shall use it, rather than Idea, because the English word cannot be employed without creating unnecessary confusion.

Hegel admits the proposition to be somewhat paradoxica and is fully aware of its openness to ridicule; but he is not man to be scared by a paradox, to be shaken by a sarcasm He is aware that stupid common-sense will ask, 'whether i is the same if my house, my property, the air I breathe, thi town, sun, the law, mind, or God, exist or not.' Certainly, very pertinent question: how does he answer it? 'In sucl examples,' he says, 'particular ends—utility, for instance—are understood, and then it is asked if it is indifferent to me whether these useful things exist or not? But, in truth, Philosophy is precisely the doctrine which is to free man from innumerable finite aims and ends, and to make him so indifferent to them that it is really all the same whether such things exist or not.' Here we trace the Alexandrian influence;—except that Plotinus would never have had the audacity to say that Philosophy was to make us indifferent to whether God existed or not; and it must have been a slip of the pen which made Hegel include God in the examples: a slip of the pen, or else the 'rigour of his pitiless logic,' of which his disciples talk.

Remark, also, the evasive nature of his reply. Common sense suggests to him a plain direct question, not without interest. This question, plain as it is, goes to the bottom of his system. He evades it by answering, that Philosophy has nothing to do with the interests of men. Very true; his system *has* nothing to do with them. But the question put was not, 'Has Philosophy to concern itself with the interests of mankind?' The question put was, 'If, as you say, Being and Non-Being are the same, is it the same thing to have a house and not to have it?' Hegel might have given a better answer even upon his own principles.

To return however. The first proposition has given us the two contradictories; there must be an identity—a relation—to give them positive reality. As pure Being, and as pure Non-Being, they have no reality; they are mere potentialities. Unite them, and you have the *Becoming* (*Werden*), and that is reality. Analyse this idea of Becoming, and you will find that it contains precisely these two elements,—a Non-Being from which it is evolving, and a Being which is evolved.

Now these two elements, which reciprocally contradict each other, which incessantly tend to absorb each other, are only maintained in their reality by means of the relation in which they are to each other;—that is the point of the magnet which keeps the poles asunder, and by keeping them asunder prevents their annihilating each other. The Becoming is the first concrete Thought we can have, the first conception; Being and Non-Being are pure abstractions.

A question naturally suggests itself as to how Being and Non-Being pass from Abstractions into Realities. The only answer Hegel gives us is that they *become* Realities; but this is answering us with the very question itself. We want to know *how* they become. In themselves, as pure Abstractions, they have no reality; and although two negatives make an affirmative in language, it is not so evident how they can accomplish this in fact. The question is of course insoluble; and those Hegelians whom I questioned on the point unanimously declared it to be one of those truths (very numerous in their system) which can be comprehended, but not proved.

Let us grant the Becoming. It is the identity of Being and Non-Being; and as such it is Being as *determined*, conditioned. All determination (*Bestimmung*) is Negation.* Therefore, in order that Being should become, it must suffer first a negation; the *Ansichsein* must also be *Anderssein*, and the relation of the two is total reality, the *Anundfürsichsein*.

*Quality* is the first negation: it is the reality of a thing. That which constitutes Quality is the negation which is the condition of its Being. Blue, for example, is blue only because it is the negation of red, green, purple, &c.; a meadow is a meadow only because it is not a vineyard, a park, a ploughed field, etc.

Being, having suffered a Negation, is determined as Quality

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* This, as many other ideas, is borrowed from SPINOZA, in whose system it has real significance. In HEGEL's it is a mere play upon words.

—it is Something, and no longer an Abstraction. But this something is limited by its very condition; and this limit, this negation, is external to it: hence Something implies Some-other-thing. There is a *This* and a *That*. Now the Something and the Some-other-thing, the *This* and the *That*, are the *same* thing. *This* is a tree; *That* is a house. If I go to the house, it will then be the *This*, and the tree will be *That*. Let the tree be the Something, and the house the Some-other-thing, and the same change of terms may take place. This proves that the two are identical. The Something carries its opposite (other-thing) within itself; it is constantly becoming the other-thing. Clearly showing that the only positive reality is the *Relation* which always subsists throughout the changes of the terms.

This, it must be owned, looks like the insanity of Logic. It is not however unexampled in Hegel's works. In his *Phänomenologie des Geistes*, he tells us that perception gives us the ideas of Now, Here, This, &c. And what is the Now? At noon I say, '*Now* it is day.' Twelve hours afterwards I say, '*Now* it is night.' My first affirmation is therefore false as to the second, my second false as to the first: which proves that the *Now* is a general idea; and as such a real existence, independent of all particular *Nows*.

Our readers are by this time probably quite weary of this frivolous Logic; we shall spare them any further details. If they wish further to learn about Quantities, Identities, Diversities, etc., they must consult the original.

Those who are utter strangers to German speculation will wonder, perhaps, how it is possible for such verbal quibbles to be accepted as Philosophy. But, in the first place, Philosophy itself, in all its highest speculations, is but a more or less ingenious playing upon words. From Thales to Hegel, verbal distinctions have always formed the ground of Philosophy, and must ever do so as long as we attempt to penetrate the essence of things. In the second place, Hegel's *Logic* is a work requiring prodigious effort of thought to understand: so difficult and ambiguous is the language, and so obscure the meaning. Now, when a man has once made this effort, and succeeded, he is very apt to over-value the result of all that labour, and to believe what he has found, to be a genuine truth. Thirdly, Hegel is very consistent; consistent in audacity, in absurdity. If the student yields assent to the premises, he is sure to be dragged irresistibly to the conclusions. Fourthly, the reader must not suppose that the absurdities of Hegel's system are so apparent in his works as in our exposition. We have exerted ourselves to the utmost to preserve the real significance of his speculations; but we have also endeavoured to bring them into the clear light of day. Anything except a *verbal* translation would reveal some aspects of the absurdity, by the very fact of bringing it out of the obscurity with which the German terminology veils it. The mountain looming through a fog turns out to be a miserable hut, as soon as the fog is scattered; and so the system of Absolute Idealism is seen to be only a play upon words, as soon as it is dragged from out the misty terminology in which it is enshrouded.

## § V. APPLICATION OF THE METHOD TO NATURE AND HISTORY, RELIGION AND PHILOSOPHY.

Having exhibited the various evolutions of the *Idee* as pure Thought, Hegel undertakes to exhibit its objective evolutions in the domain of Nature.

In the former attempt he had only to deal with abstractions; and it was no difficult matter to exhibit the 'genesis of ideas'—the dependence of one formula upon another. Verbal distinctions were sufficient there. But verbal distinctions, audacious logic, and obscure terminology avail nothing in attacking the problems presented to us by Nature; and in endeavouring to give scientific solutions. Nature is not to be coerced. Aware of the difficulties—seeing instinctively that the varieties of Nature could not be reduced to the same simplicity as the varieties of the *Idee*—as

Thought had been reduced in his *Logic*—Hegel asserted that the determinations of the *Idee* in its *exteriority* could not follow the same march as the determinations of the *Idee* as Thought. Instead of generating each other reciprocally, as in the *Logic*, these determinations in Nature have no other connection than that of co-existence; sometimes indeed they appear isolated.

When we look abroad upon Nature, we observe an endless variety of transformations. At first these seem without order; on looking deeper, we find that there is a regular series of development from the lowest to the highest. These transformations are the struggles of the *Idee* to manifest itself *objectively*. Nature is a dumb Intelligence striving to articulate. At first she mumbles; with succeeding efforts she articulates; at last she speaks.

Every modification which the *Idee* undergoes in the sphere of pure Thought it endeavours to express in the sphere of Nature. And thus an object is elevated in the scale of creation in so far as it resumes within itself a greater number of qualities: inorganic matter is succeeded by organic, and amongst organised beings there is a graduated scale from the plant up to man. In man the *Idee* assumes its highest grade. In Reason it becomes conscious of itself, and thereby attains real and positive existence—the highest point of development. Nature is divine in principle (*an sich*), but we must not suppose it divine *as it exists*. By the Pantheists Nature is made one with God, and God one with Nature. In truth, Nature is but the exteriority (*Aeusserlichkeit*) of God: it is the passage of the *Idee* through imperfection (*Abfall der Idee*). Observe moreover that Nature is not only external in relation to the *Idee*, and to the subjective existence of the *Idee*, namely Intelligence; but exteriority constitutes the condition in virtue of which Nature is Nature (*sondern die Aeusserlichkeit macht die Bestimmung aus, in welcher sie als Natur ist*).

The Philosophy of Nature is divided into three sections—Mechanics, Physics, and Physiology. Into the details, we are happy to say, our plan forbids us to enter; or we should have many striking illustrations of the futility of that Method which pretends to construct the scheme of the world *à priori*. Experimental philosophers—Newton especially—are treated with consistent contempt. Hegel is not a timid speculator; he recoils from no consequence; he bows down to no name; he is impressed by no fact, however great. That Newton's speculations should be no better than drivel, and his 'discoveries' no better than illusions, were natural consequences of Hegel's fundamental theories. That all Europe had been steadily persevering in applying Newton's principles, and extending his discoveries,—that Science was making gigantic strides, hourly improving man's mastery over Nature, hourly improving the condition of mankind,—this fact, however great it might appear to others, when coupled with the other fact, that upon the ontological Method no discoveries had yet been made, and none seemed likely to be made—appeared to Hegel as unworthy of a philosopher's notice. The interests of mankind were vulgar considerations, for which there would always be abundant vulgar minds. The philosopher had other objects.

The third and last part of Hegel's system is the Philosophy of Intelligence. Therein the *Idee* returns from Nature to itself, and returns through a consciousness of itself.

Subjectively, the *Idee* first manifests itself as a Soul; it then returns upon itself, and becomes Consciousness; and finally renders itself an Object to itself, and then it is Reason.

Objectively the *Idee* manifests itself as Will, and realises itself in History and in Law.

The Subjective and Objective manifestations being thus marked out, we have now to see in what manner the identity of the two will manifest itself. The identity of the Objective and Subjective is the *Idee*, as Intelligence, having consciousness of itself in individuals, and realising itself as Art, as Religion, and as Philosophy.

The 'Lectures on the Philosophy of History,'[*] edited by the late accomplished Professor Gans, is one of the pleasantest books on the subject we ever read. The following ideas will be sufficient to give an indication of its method.

History is the development of the *Idee* objectively—the process by which it attains to a consciousness of itself by explaining itself.[†] The condition of Intelligence is to know itself; but it can know itself only after having passed through the three phases of the method, namely, affirmation, negation, and negation of negation, as the return to consciousness endowed with reality. It is owing to these phases that the human race is perfectible.

States, Nations, and Individuals represent the determinate moments of this development. Each of these moments manifests itself in the constitution, in the manners, in the creeds, in the whole social state of any one nation. For this nation it is what we call the spirit of the age: it is the only possible truth, and by its light all things are seen. But with reference to the absolute *Idee*, all these particular manifestations are nothing but *moments* of transition—instruments by which the transition to another higher moment is prepared. Great men are the incarnations of the spirit of the age.

It is not every nation that constitutes itself into a state: to do that, it must pass from a family to a horde, from a horde to a tribe, and from a tribe to a state. This is the formal realisation of the *Idee*.

But the *Idee* must have a theatre on which to develope itself. The Earth is that theatre; and as *it* is the product of the *Idee* (according to the *Naturphilosophie*), we have the curious phenomenon of an actor playing upon a stage—that stage being himself! But the Earth, as the geographical basis of History, has three great divisions:—1. The mountainous regions. 2. The plains and valleys. 3. The coasts and mouths of rivers. The first represents the primitive condition of mankind; the second the more advanced condition, when society begins to be formed; the third, when, by means of river-communication, the activity of the human race is allowed free development in all directions, particularly of commerce. This is another of the ideas of Vico,* and is in contradiction to all history.

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[*] *Werke*, vol. ix.

[†] History is a sort of Theodicea; the merit of originality, however, which HEGEL claims (*Einleitung*, p. 20), is due to Vico, from whom he has largely borrowed; Vico expressly calls his New Science a *Civil Theology of Divine Providence*. See *La Science Nouvelle*, livre i. ch. iv.

The great *moments* of History are four. 1. In the *East* we have the predominance of substantiality: the *Idee* does not know its freedom. The rights of men are unknown because the East knows only that *one* is free. This is the *childhood* of the World. 2. In Greece we have the predominance of individuality. The *Idee* knows that it is free, but only under certain forms, that is to say, only *some* are free. Mind is still mixed with Matter and finds its expression therein; this expression is Beauty. This is the *youthhood* of the World. 3. In Rome we have opposition between the Objective and Subjective: the political universality and individual freedom both developed yet not united. This is the *manhood* of the world. 4. In the Teutonic Nations we have the unity of the contradiction—the *Idee* knowing itself; and instead of supposing like Greece and Rome that *some* only are free, it knows that *all* men are free. This is the *old-age* of the world; but although the old-age of body is weakness, the old-age of Mind is ripeness. The first form of government which we see in History is Despotism; the second is Democracy and Aristocracy; the third is Monarchy.†

On reading this meagre analysis, the ingenious speculations of the original will scarcely be recognised. Such is the art with which Hegel clothes his ideas in the garb of Philosophy, that we, though aware that he is writing fiction, not history, and giving us perversions of notorious facts as the laws of historical development;—telling us that the Spirit of the World manifests himself under such and such phases, when it is apparent to all that, granting the theory of this World-spirit's development, the phases were *not* such as Hegel declares them to have been;—although we are aware of all this, yet is the book so ingenious that it seems almost unfair to reduce it to such a *caput mortuum* as our analysis. Nevertheless the principles of his philosophy of History are those we have given above. The application of those principles to the explication of the various events of History is still more ingenious.

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* *La Science Nouvelle*, livre I. ch. ii. § 97.

† *Philosophie der Geschichte*, p. 128.

Hegel's *Philosophy of Religion* has in the last few years been the subject of bitter disputes. The schisms of the young Hegelians—the doctrine of Strauss, Feuerbach, Bruno Bauer, and others—being all deduced, or pretended to be deduced, from Hegel's system, much angry discussion has taken place as to the real significance of that system. When doctors thus disagree we shall not presume to decide. We will leave the matter to theologians; and for the present only notice Hegel's fundamental ideas.

It is often a matter of wonder to see how Hegel's Method is applied to all subjects, and how his theory of life can be brought to explain every product of life. This is doubtless a great logical merit; and it inspires disciples with boundless confidence. Few, however, we suspect, have approached the subject of Religion without some misgivings as to the applicability of the Method to explain it. Probably the triumph is great when the applicability is shown to be as perfect here as elsewhere. Of this our readers shall judge.

Hegel of course accepts the Trinity; his whole system is Trinitarian. God the Father is the eternal *Idee an und für sich*: that is to say, the *Idee* as an *unconditioned* Abstraction. God the Son, *engendered* by the Father, is the *Idee* as *Andersseín*: that is to say, as a *conditioned* Reality. The *separation* has taken place which, by means of a *negation*, gives the Abstraction real existence. God the Holy Ghost is the Identity of the two; the *negation of the negation* and perfect totality of existence. He is the Consciousness of himself as Spirit: this is the condition of his existence.

God the Father was before the World, and created it. That is to say, he existed *an sich*, as the pure *Idee*, before he assumed any reality. He created the World, because it is the essence of his being to create (*es gehört zu seinem Sein, Wesen, Schöpfer zu sein*). Did he not create, then would his own existence be incomplete.

The vulgar notion of theologians is that God created the world by an act; but Hegel says that the creation is not an act, but an eternal moment,—not a thing *done*, but a thing perpetually *doing*;—God did not *create* the world, he is eternally *creating* it. Attached also to this vulgar notion, is another less precisely but more commonly entertained; namely, that God, having created the world by an act of his will, lets it develope itself with no interference of his; as Goethe somewhere ridicules it, he 'sits aloft seeing the world go.' This was not the doctrine of St. Paul, whose pregnant words are, '*In him* we live, and move, and have our being.' We live *in* God, not out of him, not simply by him. And this is what Hegel means when he denies that the creation was a single act. Creation was, and is, and ever will be. Creation is the reality of God: it is God passing into activity, but neither suspended nor exhausted in the act.

This is all that we can here give of his *Philosophy of Religion*; were we to venture further, we should only get ourselves entangled in the thorny labyrinth of theological problems. Let us pass therefore to his *History of Philosophy*, which, according to him, is the history of the development of the *Idee* as intelligence. This development of thought is nothing more than the various transitions which constitute the *moments* of the absolute Method. All these *moments* are represented in history; so that the *History of Philosophy* is the reproduction of the *Logic* under the forms of intelligence. The succession of these moments gives to each period a particular philosophy; but these various philosophies are, in truth, only parts of the one philosophy. This looks like the Eclecticism of Victor Cousin; and indeed Cousin's system is but an awkward imitation of Hegel: but the Frenchman has either misunderstood, or has modified, the views of his master.

Historically speaking, there have been, according to Hegel, but two philosophies—that of Greece and that of Germany. The Greeks conceived Thought under the form of the *Idee*; the moderns have conceived it under the form of *Spirit*. The Greeks of Alexandria arrived at unity; but their unity was only ideal, it existed objectively in thought. The subjective aspect was wanting: the totality knew itself not as subjective and objective. This is the triumph of modern philosophy.

The *moments* have been briefly these:—1. With Thales and the Eleatics, the *Idee* was conceived as pure Being: the One. 2. With Plato it was conceived as Universal, Essence, Thought. 3. With Aristotle as Conception (*Begriff*). 4. With the Stoics, Epicureans, and Sceptics, as subjective Conception. 5. With the Alexandrians as the totality of Thought. 6. With Descartes as the Self-Consciousness. 7. With Fichte as the Absolute, or *Ego*. 8. With Schelling as the Identity of Subject and Object.

We close here our exposition of Hegel's tenets; an exposition which we have been forced to give more in his own words than we could have wished; but the plan we adopted with respect to Kant and Fichte would not have been so easy (we doubt if it be possible) with respect to Hegel, whose language *must* be learned, for the majority of his distinctions are only verbal. In Kant and Fichte the thoughts had to be grappled with; in Hegel the form is everything.

We have only touched upon essential points. Those desirous of more intimate acquaintance with the system are referred to the admirable edition of his complete works, published by his disciples, in twelve volumes, octavo. If this voluminousness be somewhat too alarming, we can recommend the abridgment by Franz and Hillert,[*] where the whole system is given in Hegel's own words, and only his illustrations and minute details are omitted. Michelet's work indicates the various directions taken by Hegel's disciples.[†] Chalybäus is popular, but touches only on a few points.[*] Barchou de Penhoen evidently knows Hegel only at second-hand, and is not to be trusted.[†] Dr. Ott's work[‡] is ill-written, but is very useful as an introduction to the study of the works themselves. No work of Hegel's has been translated into English;[§] and only his *Aesthetik* into French, and that is more an analysis, we believe, than a translation.

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[*] Hegel's *Philosophie in wörtlichen Auszügen*, Berlin, 1843.

[†] Michelet: *Geschichte der letzten Systeme der Philosophie in Deutschland*, 2 vols. 1837.

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[*] CHALYBÄUS: *Historische Entwickelung der speculativen Philosophie von Kant bis Hegel*, 3. Aufl. 1843.

[†] BARCHOU DE PENHOEN: *Histoire de la Philosophie allemande*, 2 vols. 1836.

[‡] OTT: *Hegel et la Philosophie allemande*, 1844. The best work on German Philosophy known to me is WILM's *Histoire de la Philosophie allemande*, 4 vols. 1846–9.

[§] Since this was written, a part of the *Logic* has appeared under this title.—*The Subjective Logic of Hegel, translated by* H. SLOMAN and J. WALLON, 1855, and Mr. SIBREE has admirably rendered the *Philosophy of History*. An attempt to introduce HEGEL to the English public has been made in Mr. J. H. STIRLING's *Secret of Hegel*, 2 vols. 1865, which contains a translation of the chief parts of the *Logic*, with a commentary.

# ELEVENTH EPOCH.

## *Foundation of the Positive Philosophy.*

## CHAPTER I.

### *AUGUSTE COMTE.*[*]

### § 1. His Life.

AUGUSTE COMTE was born at Montpellier on the 19th of January, 1798, in a modest house still to be seen facing the church of St. Eulalie. His father was treasurer of taxes for the department of Hérault. Both father and mother were strict Catholics and ardent royalists; but any influence they may have exercised over the direction of their son's thoughts was considerably neutralised by his own insurgent disposition on the one hand, and by his early education on the other. He was not docile to authority; though in after life he strenuously preached the virtue of docility. At the age of nine he became a boarder in the Montpellier Lycée; and there quickly distinguished himself by his ardour in study and by his resistance to discipline. Small and delicate in frame, loved by his comrades although he seldom joined in their sports, full of veneration for his professors, he was intractable, tiresome, and argumentative with his masters; those who could teach him found him docile; those who had to restrain him found him rebellious. His professors praised, his masters punished him.

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[*] The sources of this biographical sketch have been Littré: *Auguste Comte et la Philosophie Positive*, 1863; Robinet: *Notice sur l'Œuvre et sur la Vie d'Auguste Comte*, 1860; and personal knowledge.

At the age of twelve he had learned all that the Lycée prescribed in the way of instruction, and the Director begged that he might be permitted to begin mathematics. Consent was given; and the result may be told in one significant sentence: in four years he had gained a first place at the École Polytechnique, although the rules of that institution did not then allow of his admission, because he was still under age. He had to wait a whole year before the doors were opened to him; and in that year he displayed his acquirements by taking the place of his old professor (who was in failing health), and giving a course of mathematics to his former comrades, and some of his former masters.

At the age of seventeen he was admitted to the École Polytechnique, and there he was brought in contact with republican sentiments and scientific tendencies eminently suited to his rebellious and inquiring disposition. By the time he was fourteen he is supposed to have entirely disengaged himself from all royalist and all theological opinions; and he was occupied with the writings which in the eighteenth century discussed the fundamental axioms of social, ethical, and religious systems. He began seriously to meditate on the revolutions of modern history. His comrades respected and admired him. His professors recognised his eminent capacity. A brilliant career seemed certain, when it was arrested by a characteristic action of his own. One of the masters had insulted the younger students by his manners; the elder students took up the case, and after mature deliberation decided that the master was unworthy of continuing in his office. They drew up the following notification:—'Monsieur, quoiqu'il nous soit pénible de prendre une telle mesure envers un ancien élève de l'école nous vous enjoignons de n'y plus remettre les pieds.' This notification, drawn up by Comte, had his signature at the head of the list. The result was his expulsion. His official career was at an end. He was forced to return home; and remained there some time under the surveillance of the police.

We do not learn, but we may imagine, what was his reception at home, and of what nature were the debates as to his possible future. He remained some months at Montpellier, pursuing his studies with passionate devotion, and attending the various lectures at the Faculty. But this could not last. Paris allured him. In vain were the remonstrances and threats of his troubled parents; in vain their refusal to give him a penny if he quitted his native city without an assured position; the desire for freedom and the manifold attractions of the great intellectual centre were all powerful; and he found himself lonely in the crowded capital, ready to begin that eternal struggle in which year after year so many noble intellects equipped with nothing but a little knowledge and an immense ambition, fight for bread and distinction, are wounded and worsted, are wounded and conquer. A greater intellect moved by a loftier ambition has rarely fought that noble fight.

He supplied his very modest wants by giving private lessons in mathematics. Two illustrious men of science befriended him—Poinsot, who had been his professor at the École Polytechnique, and knew his mathematical power; De Blainville, who early recognised his philosophical calibre. By their aid a few pupils were obtained; one of them was the Prince de Carignan. The bread was scanty, but he wanted little more than bread. He was not one of those who founder on the sunken rocks of Parisian life.

A brief experience of a less independent position seems to have sufficed. He became private secretary to Casimir Périer; but quickly found that the paid servant was expected to be a blind admirer. Called upon to make some comments on the public labours of his master, 'elles ne furent pas goûtées;' and after a trial of three weeks the connection ceased. From Casimir Périer he passed over to the celebrated St. Simon. This was in 1818. The young philosopher hoped that he might live in harmony with a philosopher, [illegible] for some years he did so. I cannot ascertain precisely the footing on which they stood together. M. Littré says that

Comte was first secretary, then pupil, then collaborateur and friend. Dr. Robinet says that the secretaryship was practically an honorary one, for although three hundred francs a month were promised, only the first quarter's salary was ever paid. Whatever the nature of the relation, it subsisted for six years, beginning with great enthusiasm on Comte's part, continuing for some time with affectionate veneration, and ending in a violent rupture which was the culmination of a growing dissidence in opinion.

There have been angry accusations and angry recriminations from the disciples of St. Simon and the disciples of Comte which render the task of an impartial biographer somewhat difficult. But whatever may have been the personal influence of St. Simon, for good or evil, on the direction of Comte's aims, a superficial acquaintance with the Positive Philosophy will detect its essential independence of, and divergence from, St. Simonianism. When, therefore, writers sarcastically or indignantly assert that Comte 'borrowed St. Simon's ideas,' they disclose a complete misapprehension of all that characterises the Positive Philosophy. On the other hand it is unnecessary to assail St. Simon, and accuse him of being an ignorant charlatan, in order to prove what his own language and the express declaration of his editor unequivocally establish, namely, that he not only disapproved, he failed even to understand, the doctrines of his young collaborateur.

As a point in the history of philosophical evolution it is clear that Comte does not proceed from St. Simon, but from the eighteenth century: its twofold movement towards destruction and reconstruction he resumed in one grand synthesis by means of a thorough application of the Methods of Science. Nevertheless, as a detail in the biographical evolution of Comte's own mind, it is, I think, undeniable that the influence of St. Simon was decisive. By which I mean that through personal contact with this reformer his mind received the stimulus, if not the bias, which at that peculiar stage of his development was a determining one.

At the age of twenty, familiar with all the inorganic science (Biology he had not then studied, and Sociology had no been conceived), well read in history, fervent in republicanism, and ambitious of mastering the great laws of socia existence, this inheritor of the eighteenth century spirit regarding Philosophy and Science as instruments for th dissolution of theological superstitions and feudal inequalities, came into affectionate and reverential contact with one whom some regard as a turbulent charlatan, and others as a prophetic thinker, but whom all must admit to have been impressed with the urgent need and possibility of replacing the critical and destructive tendency by a positive and constructive tendency; and the immediate consequence of this contact was, that Comte learned to look upon the revolutionary work as completed, and saw that the effort of the nineteenth century must be towards the reconstruction of society upon a new basis. The old faith was destroyed, a new faith was indispensable.

Probably most readers will agree with M. Littré, that so potent an intellect as Comte's might easily have passed from the revolutionary to the organic attitude without any impulse from one so manifestly his inferior as St. Simon: but 'what might have been' is an idle hypothesis when we know what was; and in Biography, as elsewhere, we should guard against the tendency to substitute a possible evolution for an actual evolution. The simple biographical fact is, that in his youth Comte passed from the negative to the positive attitude while under the influence of a teacher whose special aim was constructive. He called himself a disciple of St. Simon; and it is not clear what he could have learned from such a master, except the necessity of a constructive attitude.

An attitude, however, is not a doctrine; an aim is not a philosophy. The impulsion may have come from St. Simon; the doctrine assuredly came from Comte, and from him only. It was probably owing to his keen perception of the irreconciliability of his ideas with the ideas of St. Simon, and the pardonable exasperation he felt at ungenerous accusations, that made him in his later years speak of his old master with excessive bitterness. His tone was that of a man who feels himself to have been deeply injured. So far from acknowledging any intellectual debt, he, who was nobly scrupulous in acknowledgment of all such obligations, however trifling, always affirmed that St. Simon's influence had been a serious retardation of his development. What the truth may be cannot now be ascertained. It is certain that his development was surprisingly rapid, and that four years after his first meeting with St. Simon, namely in 1822, he laid the solid basis of the new philosophy, which he called 'positive,' because it was the generalisation of the method which each positive science had employed in particular. Like Bacon, he schemed in his youth what a laborious life was devoted to work out.

St. Simon had vast aspirations, but he misconceived the fundamental conditions of social reorganisation. He was, moreover, altogether unprepared for a system based upon positive science, the more so because he was unacquainted with the methods of science; and accordingly, when Comte, in 1822, having discovered the laws of social evolution, drew up his memorable *Plan des travaux nécessaires pour réorganiser la Société*, it must have dawned upon St. Simon that his young assistant had become his rival and superior. He published the Essay, but even in publishing it disclaimed agreement in its peculiar views. Others thought more highly of it; among these were Humboldt and Guizot. In writing to a friend, the young philosopher could say, "J'ai été agréablement affecté (je ne dis pas surpris) de l'effet que ce travail a produit sur M. Guizot; il m'en a témoigné par écrit une profonde et sincère satisfaction, et depuis j'ai pu voir par sa conversation que ces idées agissent sur lui." He also mentions its effect on Flourens, adding, "Je dois avoir avec lui un entretien important sur l'idée fondamentale de mon travail; l'application de la méthode positive à la science sociale.'

The open rupture with St. Simon took place in 1824. The next year may be considered the year when the Positive Philosophy was constituted; for, as M. Littré reminds us, the Essay of 1822, republished in 1824, only sets forth the laws of social evolution, but does not give even an outline of the Positive Philosophy, which is for the first time expressly announced in the *Considérations Philosophiques sur les Sciences et les Savants** (published in the *Producteur* in 1825). In the two pregnant essays which thus form, as it were, the inaugural thesis of the young philosopher, it is shown (1) that all phenomena, even those of politics, are subject to invariable laws; (2) that the human mind passes from initial theological conceptions to final positive conceptions, through the transition of metaphysical conceptions; (3) that human activity, in like manner, passes through three phases, from the conquering military régime to the pacific industrial régime, through the transitional state of a defensive military régime; (4) that everywhere, and at all times, the state of opinions and manners determines the institutions, and that the nature of the general beliefs determines a corresponding political régime; (5) that philosophy (or general beliefs) in passing from the theological to the positive stage must bring about the substitution of the industrial for the military régime; and finally, that the spiritual reorganisation, which is the necessary condition of all social reorganisation, must repose upon the authority of demonstration, it must be based upon science, with a priesthood properly constituted out of the regenerated scientific classes. In other words, the spiritual authority must issue from a philosophy which can be demonstrated, not from a philosophy which is imagined.

The year 1825 is memorable on other grounds; it is the date of his marriage with Caroline Massin, bookseller, then (as I infer from a phrase in one of his letters to me) in her twenty-fourth year. There is no graver event in a man's life than marriage. It may prove an inestimable blessing, the subtle influences of which will permeate every hour of the day, strengthen every fibre of his moral being, and by its satisfying repose to the affections, give his intellect a calmer and more continuous sweep. It may also prove a desolating evil, numbing the sympathies, irritating and scattering the intellectual energies, distorting the life. In Comte's case the marriage was unhappy. In spite of mutual admiration there was some essential cause of disunion, which led to much unhappiness and a final separation. Into the very delicate question of culpability I do not feel inclined to enter. The relations of man and wife are too complex and too obscure for a bystander to appreciate, even when he has personal knowledge to aid him. I have no knowledge of Comte in his domestic relations; and MM. Robinet and Littré are so transparently in the position of partisans, one vehemently reviling Madame Comte, the other artfully pleading her cause, that little reliance should be placed on either. M. Littré is more measured in his judgments than Dr. Robinet, whose imputations cannot be sustained in presence of the documentary evidence of letters from De Blainville, Comte, and Madame Comte; but M. Littré, who has long been the intimate friend of Madame Comte, suppresses important facts, and uses others with insidious effect. In presence of such *ex-parte* versions we shall do well entirely to suspend judgment.

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* This essay, with others, will be found appended to the fourth volume of the *Système de Politique Positive*: they form an excellent introduction to the study of Positivism.

Enough for us here to know that Comte was initiated into domestic life at a time when there seemed very little prospect of his being able to earn more than a precarious subsistence. His family at first opposed the match, but finally gave a reluctant consent: though, to their grief, the religious ceremony was resolutely declined, and a civil marriage was all that Comte would accept. We shall hear more of this presently. Meanwhile we must think of the young couple as dependent entirely on the proceeds of lessons in mathematics. At the time of their marriage Comte had but one pupil: that pupil was the 'Bayard of our day,' as his admirers style General Lamoricière. With the small sum of money brought by his wife, a modest lodging was furnished in the Rue de l'Oratoire. Here M. de Narbonne proposed to place his son as boarder and pupil. Other aristocratic families would, it was hoped, follow the example. To receive these pupils a more dignified apartment was taken in the Rue de l'Arcade, at the corner of the Rue St. Lazare; and fresh furniture had to be bought. Their small stock of ready money was thus invested, but the pupils never came, and the apartment was a burden. In a few months the solitary boarder was sent back, and the young couple had to migrate to more modest lodgings in the Rue Montmartre (No. 13). Here Comte, although unwilling to divert his attention from the working out of the great scheme which he was then meditating, was persuaded to earn a little money by publishing an occasional essay in the *Producteur*. To this we owe the *Considérations Philosophiques sur les Sciences et les Savants*, and the *Considérations sur le nouveau pouvoir spirituel*.

By the month of April, 1826, the system was sufficiently matured in his mind for a dogmatic exposition, which he announced in a course of seventy-two lectures to be delivered in his private rooms. There is something imposing in the magnitude of the attempt. One hears with surprise of a young and obscure thinker proposing to expound the philosophy of all the sciences, aiming at the reconstruction of a Spiritual Power, and calling upon his auditors for a year's severe attention to his scheme. One is still more surprised to hear the names of the auditors who were prepared to give this attention: Humboldt, Poinsot, De Blainville, Montebello, Carnot, d'Eichthal, Cerclet, Allier, and Mongéry. A scheme so gigantic might, indeed, have originated in a colossal vanity unimpeded in its pretensions by any definite knowledge of what the scheme implied; for the ignorant are often seduced by their ignorance into pretensions which a little knowledge would repress. It is as easy to write a check for ten millions as for ten pounds—when you have nothing at your banker's. But the presence of an audience such as I have named, and in such a place, proves that the pretensions were recognised by competent judges, and that the lecturer had inspired men of position with the conviction that he had something important to say.

It will be readily understood, by any one acquainted with the intense cerebral excitement which attends the elaboration of great conceptions in their systematic co-ordination, that the strain on Comte's mind, amid various vexations, and particularly in the agitation of vehement personal quarrels, proved too much for him. After the delivery of three or four lectures, an attack of insanity abruptly closed the course. For some weeks previously he had displayed an irritability and violence of temper which alarmed his wife. She, not unnaturally, attributed to malignity what was due to disease. On Friday, the 24th April, he went out and did not return home. On Monday a letter came, dated from St. Denis, whither his wife hastened, but found him no longer there. Remembering that he was very fond of Montmorency, she went there on the chance of finding him; and found him in a pitiable condition. A physician was sent for, who confessed the case to be alarming, but dared not bleed the agitated patient.

The excitement subsided, and he expressed a wish to go out for a walk. She imprudently consented, and accompanied him. As they came to the edge of the lake of Enghien, he suddenly declared that although he could not swim he should not be drowned if he walked into the lake; and he began to drag his wife with him. She was young and strong: struggled, caught hold of a tree, and saved them both.

But now came the difficulty of getting him back to the inn. His excitement rapidly increased. The peasants refused all offers tempting them to act as guardians while his wife hurried to Paris to seek the assistance of De Blainville: and she was forced to leave him under the charge of two gendarmes. She returned from Paris to find him in a worse condition. In the morning De Blainville arrived followed by M. Cerclet. They contrived by stratagem to get him to Esquirol's establishment for the insane; and there his exaltation was so great, that it was regarded by Esquirol as a favourable prognostic of an early recovery. Unhappily the recovery was slow, and would probably have been impossible had he not quitted the madhouse, with its incessant irritations, for the soothing influences of domestic quiet. On hearing the melancholy news, Comte's mother at once came to Paris to attend on him; and she remained there till he quitted the Asylum. De Blainville, after seeing summer and autumn pass away without sensible improvement, justly concluded that hatred of his keepers and the system of treatment perpetuated the excitement. Comte's father hereupon proposed that he should be removed to Montpellier. But the wife wished to have her husband under her care, and her plan was adopted.

A grotesque and lugubrious farce was played on the day of his quitting the establishment. I have already mentioned the pain and indignation of his family at his refusal to give his marriage the religious sanction of a Church ceremony; and this refusal was now regarded by his parents as the origin of the calamity which had fallen on him. The confidence with which people see the 'finger of God' in human afflictions, and see their own anger confirmed by His 'judgments,' is too constantly exemplified for us to think harshly of the mistaken parents. But I cannot without pain hear of a man like Lamennais being mixed up with what followed, namely, the attempt to make peace with offended Heaven by inducing the insane heretic to submit himself to the dictates of the Church he detested, and ask for a religious ceremony to sanction his marriage. By what arts the consent was gained, is not said; but in a lonely chamber of Esquirol's madhouse this gloomy farce was played. The officiating priest was deficient in tact, and instead of shortening the ceremony, lengthened it by a prolix discourse which excited Comte; and the shocking spectacle was presented of a priest pouring forth pious exhortations, extremely unsuited to the mental condition of the maniac, who kept up a running commentary of anti-religious incoherencies! The state of his mind was exhibited when he came to affix his signature, —after his own name he added Brutus Bonaparte. But the ceremony was performed; the Church was satisfied; the tender consciences were at peace.

He left the establishment for ever. His nurses were now his mother and his wife. Iron bars were placed before the windows of his lodging, and Esquirol sent a keeper to help and protect them. But at the end of a week it was found necessary to do away with these precautions, which made the unhappy man still imagine himself in the establishment he hated. From that moment his recovery began. In three weeks' time he was left alone with his wife. His violence at first caused serious anxiety. Twice a day, at meals, he would try to plant his knife in the table, in imitation, he said, of Sir Walter Scott's highlander; and he would call for a succulent pig, in imitation of Homeric heroes. More than once he threw his knife at Madame Comte—not, as she believes, with any intention of injuring her, but merely to frighten her into compliance with his wishes.

At the end of six weeks all immediate danger was over. A new danger emerged in the profound melancholy which gradually overclouded him, as with returning health there came upon him the conviction that he could no longer live that life of intellect which had once been his. Life could in future be nothing but a weariness, now that his powers were gone. The idea of suicide arose. One day, during his wife's absence, he slipped out, hurried to the Seine, and threw himself into it from the bridge. A soldier plunged in and saved him. The shock seems to have roused his energies; perhaps by determining a different impulse to his circulation. He expressed great regret for his attempt, and the grief he had thereby caused his wife. From this time there was no relapse. In the month of July he was well enough to visit his parents at Montpellier.*

It is not without a purpose that I have told this story of the severe cerebral attack in its painful details. The fact that he had been insane was openly avowed by himself, in anticipation of the ignoble pretext which he foresaw that it might furnish to his adversaries, who would more easily dismiss his philosophical ideas as the reveries of a madman than point out incoherencies and refute arguments. We are so ready to see the love of singularity, the distorted conceptions of eccentricity, or the illusions of a 'heat-oppressed brain,' in any departure from our own ways of thought, that when a man comes before us with opinions we do not understand, or understanding do not like, and that man is known to have been actually insane at one time, the temptation to charge his opinions on his insanity is very strong indeed. But although Comte was really out of his mind for one brief period, he was perfectly sane and sound when he first conceived, and when he finally executed, the scheme of his philosophy. Had the work been elaborated in a madhouse, or published while the author was insane, there would be an excuse for dismissing it unexamined; in such a case, however, examination would have disclosed something like a miracle which would have revolutionised all our ideas about insanity. Every one must see that a body of doctrine so compact and organically related in its parts, could only have been wrought out in the plenitude of mental power. Call that doctrine mischievous, erroneous—what you please—only not incoherent. The intense concentration it demanded may have been the predisposing cause of the insanity, but the insanity had nothing to do with the production of the philosophy. Nor will any one who is even superficially acquainted with the phenomena of mental disease, and who understands that all disease whatever is only a disturbance of equilibrium in the functions, suppose that when the disease has passed and the equilibrium is restored, the functions will not resume their normal activity, the insane man becoming perfectly sane, and capable of as accurately co-ordinating ideas as before. The fevered pulse becomes normal in its beats, the inflamed mucous membrane becomes normal in its power of secretion, and the over-stimulated brain becomes normal in its action, when once the disturbing causes are removed.

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* I have followed M. LITTRÉ in this narrative of the attack, because it is confirmed, to a great extent, by documentary evidence, though of course the story proceeds from Madame COMTE.

There is, therefore, nothing remarkable in the fact that Lucretius and Cowper wrote their immortal poems during lucid intervals of frequent cerebral attacks. The philosophy of Lucretius has indeed been often affiliated on his insanity; but the sweet piety, the delicate humour, and the sustained excellence of Cowper, have not been thus branded; and they show that the mind *is* lucid in its lucid intervals. The list of illustrious madmen is a long one. Lucretius, Mahomet, Loyola, Peter the Great, Haller, Newton, Tasso, Swift, Cowper, Donizetti, spontaneously occur as the names of men whose occasional eclipse by no means darkens the splendour of their achievements. To these we must add the name of Auguste Comte, assured that if Newton once suffered a cerebral attack without thereby forfeiting our veneration for the *Principia* and the *Optics*, Comte may have likewise suffered without forfeiting his claims on our veneration for the *Philosophie Positive*. But the best answer to this ignoble insinuation is the works themselves. If they are the products of madness, one could wish that madness were occasionally epidemic.*

I return to the narrative of his life. In 1828 he recommenced that oral exposition of his system which we have seen so cruelly interrupted. This time it was in his lodgings, Rue Saint Jacques, No. 159. The great geometrician Fourier, and the celebrated physician Broussais, with De Blainville, Poinsot, and Mongéry, were among the small audience. He completed the course, and also gave a brief public exposition of his historical views at the Athénée. In 1830 he published the first volume of his Course; but the second volume, owing to the commercial crisis, did not appear till 1835; the sixth and last in 1842. I should add that in 1830 he began to give the gratuitous course of public lectures on Astronomy which was repeated for seven years, and afterwards (1844) published under the title of *Traité Philosophique d'Astronomie Populaire.*

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* Let us hear him on this point;—'Après que la médecine m'eut enfin heureusement déclaré incurable, la puissance intrinsèque de mon organisation, assistée d'affectueux soins domestiques, triompha naturellement, en quelques semaines, au commencement de l'hiver suivant, de la maladie, et surtout des remèdes. Ce succès essentiellement spontané se trouvait, dix huit mois après, tellement consolidé que, en Août, 1828, appréciant dans un journal le célèbre ouvrage de Broussais sur L'Irritation et la Folie, j'utilisais déjà philosophiquement les lumières personnelles que cette triste expérience venait de me procurer si chèrement envers le grand sujet.'

These twelve years (1830–42), embracing the publication of the *Cours de Philosophie Positive,* forms what M. Littré justly calls 'the great epoch' in his life: 'Un labeur infini l'attendait; il se soumit sans réserve à cet infini labeur. Douze ans se passèrent pendant lesquels il ferma courageusement sa vie à tout ce qui aurait pu le distraire. Jamais le besoin d'une publicité prematurée ne fit invasion dans son âme. . . . . Sévère, persévérant, sourd aux bruits du dehors il concentra sur son œuvre tout ce qu'il avait de méditation. Dans l'histoire des hommes voués aux grandes pensées, je ne connais rien de plus beau que ces douze années.' It would be well that we should bear this in mind. Athough the world is called upon to judge results, not efforts—to accept or reject works on their own pretensions, and not on any pretentions claimed for the disinterestedness and labour of the worker—it is but just that, in speaking of the worker, we should remember his claims. Whether it is a system or a sonnet, we agree with the Misanthrope of Molière—

> 'Monsieur, le temps ne fait rien à l'affaire ;'

but the serious worker is regarded with very different feelings from those which are excited by the vain and presumptuous sciolist. Reject the Positive Philosophy if your mind refuses to accept it, but speak of Comte as one who gave a life to its elaboration; as one who believing that he was commissioned to impart a new faith, accepted the burden with a severe courage, and thought and toiled, relinquishing all other aims, steeling himself against all other seductions, and with a noble disinterestedness devoting himself to the task which he well knew was certain to bring obloquy on him while living, to be followed by an immortal fame.

Shortly after 1830 he refused to join the National Guard. He was cited before the municipality, and was condemned to an imprisonment of three days. He thus proclaimed his reasons:—'The law declares that the National Guard is instituted to defend the government which France has given herself. If it were simply a question of maintaining order I should not refuse to bear my part; but I refuse to share in political struggles. I shall never attack the government by force. But, being a republican in mind and heart, I cannot swear to defend, at the peril of my life and that of others, a government which I should attack were I a man of action.' Such language as this would have led to a criminal indictment had not the authorities dreaded the publicity of such a defence. As it was, he remained unmolested.

In 1833 he obtained an office in the École Polytechnique, which with another that soon came to him, and a mathematical class in a private educational establishment, brought ease into his domestic circumstances, and enabled him to dispense with private pupils. From this time, and for some years, he enjoyed an income of 10,000 francs. Hitherto his sole relaxations had been long walks, and what he called his *flâneries philosophiques*. Now he was enabled to indulge his passion for music, and every season had his stall at the Italian Opera. Although without musical culture, he was exquisitely sensitive to music; had a fine voice, and sang certain songs with great effect, particularly *La Marseillaise*, which he gave with vibrating revolutionary fervour.

He read absolutely nothing on Philosophy or Science; he abstained on system. In his early years he had read immensely, and his memory was of extraordinary tenacity.

English, Italian, and Spanish he taught himself simply by taking a book and a dictionary of each language. Gifted with such a memory, his neglect of books was perhaps a greater advantage to the integrity of his philosophising than it would be in most cases. All his knowledge was organised; whatever he had once read was always available.

M. Littré describes his method of composition, which is truly remarkable. 'He meditated the subject without writing a word. From the general conception he passed to the great divisions, and from those to the details. When this elaboration, first of the whole and then of the parts, was finished, he considered that his volume was completed. And this was true, for on sitting down to write he recovered without loss every one of the ideas which formed the tissue of his work, and recovered them in their order and connection, although not a word had been committed to paper. In this way he composed the course of lectures which embraced the whole Positive Philosophy, and the catastrophe which followed (in 1826) proves that the method was as dangerous as it was puissant.' When once he began to write he was hurried along by the impetuous current of his thoughts; and the dates which he has given of the composition of various parts of his writings prove the almost incredible rapidity with which he wrote. The sheets were sent to press as fast as they were written; so that the printing of each volume was completed almost as soon as he laid down the pen.

The last of his private pupils, whose name has not transpired, has given an interesting glimpse of his illustrious teacher, in a paper which appeared in *Chambers's Journal* (June 19, 1858). After narrating how he found himself in this position, he adds:—'Daily as the clock struck eight on the *horloge* of the Luxembourg, while the ringing hammer on the bell was yet audible, the room of my door opened, and there entered a man, short, rather stout, almost what one might call sleek, freshly shaven, without vestige of whisker or moustache. He was invariably dressed in a suit of the most spotless black, as if going to a dinner party; his white neckcloth was fresh from the laundress's hands, and his hat shining like a racer's coat. He advanced to the arm-chair prepared for him in the centre of the writing-table, laid his hat on the left-hand corner, his snuff-box was deposited on the same side beside the quire of paper placed in readiness for his use, and dipping the pen twice into the ink-bottle, then bringing it to within an inch of his nose, to make sure it was properly filled, he broke silence: "We have said that the chord A B," &c. For three quarters of an hour he continued his demonstration, making short notes as he went on, to guide the listener in repeating the problem alone; then, taking up another *cahier* which lay beside him, he went over the written repetition of the former lesson. He explained, corrected, or commented till the clock struck nine; then, with the little finger of the right hand brushing from his coat and waistcoat the shower of superfluous snuff which had fallen on them, he pocketed his snuff-box, and, resuming his hat, he as silently as when he came in made his exit by the door which I rushed to open for him. This man of few words was the Aristotle or Bacon of the nineteenth century.

'Thus for a year I daily sat a listener, not always attentive, and to the last but dimly conscious of the value of lessons which I can never forget in their higher meaning, though the angles and curves which they explained have long since become to me more meaningless than hieroglyphics.

'One would think that such a teacher, gliding in and out like a piece of clock-work, without an interchange of any of the gentle courtesies of life, would raise only a repulsive feeling in his pupil. It was in vain I tried to break through the coldness of our relations, to establish that little preliminary gossip in which I have found some teachers too ready to employ all the time of their lesson; he seemed to say that he had nerved himself to a disagreeable duty, and that nothing should turn him from it. Only twice did I even succeed in gaining proof that he had something mortal in his composition. I had been six weeks under his tuition, and still persisted, with more, perhaps, of malice than of ignorance, in using the most abominably ungrammatical French in my written repetitions of his lectures. One morning he lost patience at some solecism more excruciating than usual; and laying down his pen, he turned to me, and said: "Why do you persevere in writing such barbarisms?" "You know I am a foreigner," said I: "how should I do better?" "You can at least do better than this: write as you speak;" and he resumed his pen, correcting every fault of language. From that day, there were few grammatical blunders in my papers. Once again, and this time less wilfully, I encountered the same mild anger. I was at the time studying very hard, generally thirteen hours a day of book-work—a folly bitterly expiated and repented since—and I was seldom in bed till after midnight. One black wintry morning, after harder work than usual, I nodded over the lecture. With no straining of the ears, could I drink in the sense; with no forcing of the eyelids, keep them open. I dared not rise and take a few turns in the room, for this would have been a violation of our habits. So I sat till the humming of the voice, and the scraping of the pen, acted like a lullaby, and I was already three parts asleep, when suddenly a change of tone aroused me, and the words "But you sleep," recalled me to myself, only to see my tutor stalking out of the room, while I vainly tried to catch and appease him. The next day, he resumed the lesson where he had left off on the one previous to my nap, but not a word of reproach was uttered, or of apology allowed, by the insulted sage.

'From that day, I began to love him. Cold or abstracted as he seemed, the intellectual giant henceforth won almost imperceptibly on the youth. I could not feel, much less measure his greatness, but I acquired an interest in the dry science he taught me; and had I continued under his charge, I might have become a mathematician. I had been taught to fear, not to revere my masters; if I had a liking for any one, it had been in proportion to his laxness; and I now found myself half unconsciously, and quite unaccountably, gliding into a sort of affection for the most unapproachable, the most uncongenial of them all. I was then the most unreasonable of boy-mortals. I cannot, therefore, suppose that this feeling was due to the sway of pure reason over my mind; I can only think that it arose from an instinctive perception of the smothered kindliness which entered so largely into his composition.

'I returned to England to "keep halls," and devote myself to a new range of studies—stigmatised, I believe, by my masters and pastors as pure idleness, because not set down in their books; and it was two years before I was again in Paris. By that time I had become acquainted with what was published of the *Philosophie Positive*. From its pages I had learned that my old tutor was a great man, though hardly yet a celebrated one. I had learned to contrast his earnestness with the *laissez-faire* of others; and a visit to him was one of the first pleasures which I promised myself in the capital most fertile in pleasure to youthful visitors. Mindful of the showers of snuff which had too often attacked my sternutatory muscles, I carried him a Cumnock snuff-box, with one of our Ayrshire pebbles in the lid, and was delighted to find it graciously accepted. He put it at once into a drawer of his writing-table, and then told me that he had given up the use of snuff. He said that he had withdrawn entirely from the world, to devote himself without distraction to the politics of his philosophy—that he no longer even read the newspapers, and had weaned himself from every superfluity.

'It was not till 1851 that I again saw him. He was then the acknowledged chief of a school, and renowned, if not admired, among all thinkers. I had some little trouble in finding his abode, and it was with a beating heart that I pulled the bell-string. An old gentleman in a dressing-gown, with a black neckerchief strung round his throat, opened the door. I almost thought I had misunderstood the porter's directions. "Monsieur Comte?" I inquiringly said.

'"It is I, Sir," was the answer.

'The change in his appearance intimidated me, and I hesitatingly mentioned my name. At once he put out his hand and drew me into his sitting-room. Here I was able to remark the wonderful change which had come over his expression since we had last met. He now reminded me of one of those mediæval pictures which represent St. Francis wedded to Poverty. There was a mildness in those attenuated features that might be called ideal rather than human; through the half-closed eyes there shone the very soul of him who had doubted whether he had anything more than intellect. "I did not recognise you," he said, opening a drawer; "but I think of you almost daily. See, I still have your box, and I keep my seals in it, so that I am often reminded of you." He spoke unreservedly of the honourable poverty to which the last revolution, in depriving him of his modest competence, had reduced him, and he told me how the generous sacrifices of some of his disciples had relieved him of the cares of material existence.

'He indulged me with a long conversation, every word of which filled me with fresh wonder. He was no longer the rigid thinker, regular and passionless as mechanism; he seemed to have renewed his youth, to have added something to his former self, but how or what, I could not at the time imagine. In terms unintelligible to me, he referred to relations which had given impulse to his affections; he spoke with enthusiasm of the Italian poets, and of Shakspeare and Milton, whose works he had learned to read in the original; and—O surprise!—taking from his chimney-piece a well-thumbed copy of the *Imitation*, he said: "I read some pages of this book every morning."

'I already had had cause to suspect that under that frigid mask which he wore in earlier years, an impulsive nature and warm affections were concealed; I had heard at the time that the little keepsake I had brought had pleased him so much, that in speaking of it a few days afterwards his eyes glistened; I understood, therefore, that far within him was a loving soul; and I now learned, from a book which he gave me, the story of how he had found and lost the counterpart, the other half, which he had so long sought. The history of the platonic love to which he owed the late development of his affections is a strange one, and the story of its heroine one of the saddest in the history of crime.'

To return: the year 1842 is doubly memorable: it saw the termination of his great work and of his conjugal life. I have already said that into the domestic question I cannot enter. Be the blame of the failure chiefly hers or chiefly his, the failure sprang from conditions we cannot accurately appreciate. That the separation was her deed, and not his, seems indisputable; and in one of his letters to Madame de Vaux he writes:—'An indispensable separation, all the more irrevocable on my side because I in no way provoked it, completely relieved me of an intolerable domestic oppression, now happily converted into a simple pecuniary charge which my character forbids my feeling in its true weight. In truth, the two first years of that new situation, during the interval between the close of my first great elaboration and the opening of the second, were passed in enjoyment of the negative happiness resulting from this unhoped-for calm succeeding the long and daily agitation.' It is clear from many indications that they quarrelled frequently and violently: their views of life were different, and probably the worldly views of the one were a continual exasperation to the other; but it is also clear that he did not regard her as having done anything to forfeit his respect and admiration; in one of his letters he lays the principal stress on the fact of her having never loved him. He continued for some years to correspond with her on affectionate terms.

With the publication of the *Philosophie Positive* he assured his place among the great thinkers of all ages, but drew upon himself the bitter hatred of rivals and insulted professors, which hatred, being aided by the indignation of theologians, metaphysicians, and journalists, who were irritated at his dangerous doctrines and sweeping scorn, ended in driving him from his official position. He was turned adrift once more to seek a laborious existence as a teacher of mathematics. The story is told by him in the preface to the sixth volume of the *Philosophie Positive*, and in fuller detail by M. Littré. It need not be repeated here; the sad result is enough. To mitigate the blow, three Englishmen—Mr. Grote, Mr. Raikes Currie, and Sir W. Molesworth—through the intervention of Mr. Stuart Mill, offered to replace the official salary for one year, understanding that at the end of the year Comte would be either reinstated or would have resolved on some other career. The year passed, and his re-election was again refused. At first this troubled him but little. He had learnt to regard the 'subsidy' of his admirers as his right. It was due from the rich to the philosopher; and the philosopher could more effectually use his powers if all material anxieties were taken from him. This, however, was by no means the light in which the case was seen in England. Mr. Grote sent an additional 600 francs, but a renewal of the subsidy was declined. Comte was exasperated. I remember hearing him speak of the refusal as if some unworthy treachery had been practised on him. I tried to explain as delicately as I could what I conceived to be the point of view of his friends who declined to be his bankers; but he had so entirely wrought himself into the persuasion that the refusal was a moral dereliction, and that no excuse could be offered for men who had wealth withholding a slight portion of it from thinkers whose lives were of importance to the world, that I saw explanation was useless. He had a fixed idea on the subject; and it may be seen expressed in haughty terms in his letter to Mr. Mill.[*] If there is much to be said (and I think there is) in favour of his idea of the duty of the rich towards thinkers whose aims they approve, there is also not a little to be said on the other side, and not a little blame attributable to his manner of urging his claims. He chose to assume a 'haute magistrature morale' which others would not recognise. He professed to speak solely as a philosopher, but showed too much personal preoccupation. It is sad to hear that the result of this was a coolness on the part of Mr. Mill, and the cessation of a correspondence which he had valued, and to which Comte himself attached great value (as appears in one of his letters to me, inquiring into the cause of the silence, and showing anxiety on the subject).

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[*] And in a published work: 'Je somme tous les Occidentaux capables de sentir, d'une manière quelconque, la vraie portée de mes travaux, de concourir loyalement, suivant leurs moyens respectifs, au digne protectorat institué pour moi. Si les positivistes incomplets persistaient à motiver leur *coupable indifférence* sur leurs divergences partielles envers l'ensemble de ma doctrine, je *dévoilerais aisément l'égoïsme mal caché* sous ce vain prétexte.'—*Système de Politique Positive*, iii., preface, p. xxv.

This idea of a subsidy replacing the 'infamous spoliation,' became, as I said, a systematic conception, and he now boldly relinquished all efforts at providing an income, and made a public appeal to his admirers for one. The appeal was responded to during the rest of his life.*

Meanwhile he was to learn the unspeakable influences of a deep affection. We have seen St. Simon giving the bias to his intellect which determined the creation of the *Philosophie Positive*; we have now to see the bias given to his thoughts by a passionate love, which carried him into sentimental and mystical regions little foreseen by his early adherents.

It was in the year 1845 that he first met Madame Clotilde de Vaux. There was a strange similarity in their widowed conditions. She was irrevocably separated from her husband by a crime which had condemned him to the galleys for life: yet although morally free, she was legally bound to the man whose disgrace overshadowed her. Comte also was irrevocably separated from his wife by her voluntary departure; and although morally free was legally bound. Marriage being thus unhappily impossible, they had only the imperfect, yet inestimable, consolation of a pure and passionate friendship. He was fond of applying to her the lines of his favourite Dante—

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* The circulars which he yearly sent forth are printed in the prefaces to his *Système de Politique Positive*.

'Quella che imparadisa la mia mente
Ogni basso pensier dal cor m'avulse.'

Every one who knew him during this brief period of happiness will recall the mystic enthusiasm with which he spoke of her, and the irrepressible overflowing of his emotion which led him to speak of her at all times and to all listeners. It was in the early days of this attachment that I first saw him; and in the course of our very first interview he spoke of her with an expansiveness which greatly interested me. When I next saw him he was as expansive in his grief at her irreparable loss; and the tears rolled down his cheeks as he detailed her many perfections. His happiness had lasted but one year.

Her death made no change in his devotion. She underwent a transfiguration. Her subjective immortality became a real presence to his mystical affection. During life she had been a benign influence irradiating his moral nature, and for the first time giving satisfaction to the immense tenderness which slumbered there; she thus initiated him into those secrets of emotional life which were indispensable to his philosophy in its subsequent elaboration. Her death rather intensified than altered this influence, by purifying it from all personal and objective elements.

In one of his letters to her we read:—'Le charmant bonjour auquel je n'ai pu répondre avant hier me laissera le souvenir permanent d'une affectueuse expression caractéristique dont j'éprouve le besoin de vous remercier spécialement, quand vous y avez daigné mentionner votre bonheur de *m'acquérir*. En effet, c'est bien là, ma Clotilde, le mot qui nous convient mutuellement, pour désigner à chacun de nous sa meilleure propriété. Plus notre intimité se développe et se consolide, mieux je sens journellement que cette chaste union est devenue chez moi la principale condition d'un bonheur que j'avais toujours ardemment rêvé, mais sans pouvoir, hélas! l'éprouver jamais avant d'avoir subi votre bienfaisant empire.'

The remainder of his life was a perpetual hymn to her memory. Every week he visited her tomb. Every day he prayed to her and invoked her continual assistance. His published invocations and eulogies may call forth mockery from frivolous contemporaries—intense convictions and disinterested passions easily lending themselves to ridicule—but posterity will read in them a grave lesson, and will see that this modern Beatrice played a considerable part in the evolution of the Religion of Humanity. Philosophic students will admit that to act powerfully on the sentiments of others the philosopher must have first participated in them himself; and that the elaboration of a system in its emotional relations could only be accomplished by a thinker who had been profoundly moved. This initiation was gained through Madame de Vaux. In one of his letters to her he says :—

'Mon organisation a reçu d'une très-tendre mère certaines cordes intimes, éminemment féminines, qui n'ont pu assez vibrer faute d'avoir été convenablement ébranlées. L'époque est enfin venue d'en développer l'activité, qui, peu sensible directement dans le premier volume, essentiellement logique, de mon prochain ouvrage, caractérisera fortement le tome suivant, et encore plus le quatrième ou dernier. C'est de votre salutaire influence que j'attends, ma Clotilde, cette inestimable amélioration, qui doit dignement écarter les reproches de certains critiques sur le prétendu défaut d'onction propre à mon talent, où quelques âmes privilégiées ont seules reconnu déjà une profonde sentimentalité implicite, en m'avouant avoir pleuré à certains passages philosophiques, ceux-là même que j'avais, en effet, écrits tout en larmes.'

It may be useful here to remark that Comte is frequently written against by those who know him only at second hand, as offensively dry, hard, materialistic, and irreligious: while by those who have more or less acquainted themselves with his writings, he is frequently condemned as a mystical, sentimental, and despotically moral pontiff. One class objects to him because he allows no place to the emotions; another because he makes philosophy too emotional. One class fulminates against his denial of religion; another class is more disposed to echo the apostrophe of Billaud Varennes to Robespierre, 'Avec ton Être suprême, tu commences à m'embêter!' He is called an atheist; and no one was ever more contemptuous towards atheism. He is called a materialist; and no great thinker was ever less amenable to the objections which that term connotes.

The contradictory charges are grounded upon a misapprehension of the scope and spirit of his philosophy, in the first place; and in the second upon the fact that there is a very wide divergence in Method and results between his early and later works. Up to 1842 he placed himself in the direct line of historical filiation, and subordinated his researches to the Objective Method; he resumed and systematised the efforts of his scientific predecessors in one vast and compact body of doctrine, creating a Philosophy out of the various sciences by giving unity to their scattered generalities. But after 1842 a radical change took place; the philosopher brusquely assumed the position of a pontiff. He changed his Method (and was forced to change it), and coincident with this theoretical transformation, was the emotional transformation, initiated by a profound affection and a profound sorrow.

Before setting himself to the composition of his second great work, Comte is supposed to have had another cerebral attack, though but a slight one, and of brief duration; and it will not be without indignation that impartial readers will observe how M. Littré, apparently to explain his rejection of the doctrines, insinuates that they were vitiated in their origin by that (hypothetical) cerebral attack. From unthinking and reckless adversaries such an accusation might be anticipated. From one who avows himself a disciple it could only escape moral reprobation by being at least plausibly founded. Now on what grounds can M. Littré pretend that the cerebral attack, the very existence of which is a supposition of his own, and the duration of which must have been slight, vitiated the *Politique*, when he refuses to admit that the avowed, long continued, and violent attack which preceded the composition of the *Philosophie* in any respect vitiated that work? The contradiction is glaring. To suppose that a man issues from an attack of insanity lasting many months and characterised by extreme violence, without injury to his philosophical integrity, and many years afterwards suffers a radical metamorphosis through a very trivial attack, so trivial as to be only suspected from a passing phrase in a letter, is not indeed a supposition beyond the reach of psychological inference, and if supported by evidence would find little resistance; but for a disciple of the *Philosophie* to insinuate that the *Politique* has the taint of insanity, is a contradiction I am forced to point out. The weaknesses and extravagances which strike M. Littré in the second work cannot be adduced in proof, because those who reject the first work might on equal grounds detect insanity in the ideas which to them appear weak and extravagant. Moreover, M. Littré, as a student of Comte, ought not to have overlooked the very obvious germs of these extravagances which are in the *Philosophie*—the tendencies towards despotic systematisation and arbitrary fictions, which in the *Politique* have all the more freedom because unrestrained by established truths. As a student of history he ought not to have overlooked the fact that the unbridled employment of the deductive method was *inevitable* on a topic which was destitute of the requisite inductions: that is to say inevitable in the case of all who are not content to await the slow results of inductive investigation. Finally, and conclusively, M. Littré should not have failed to recognise in the *Politique* the same intellectual force, the same sustained power of conception and co-ordination, although with less successful result, that had commanded his veneration in the *Philosophie*. To reject the work may be permissible; to see in it the work of an intellect distorted by disease is an extravagance greater than any to be found in its pages. The reach of intellect and profoundly moral tone displayed in every chapter, can only be misconceived by those who estimate the force of a thinker by the immediately available truths he offers them—an estimate which would make sad havoc with the pretensions of a Plato, a Descartes, a Spinoza, or a Hegel.

I am not pleading for the later system. On the contrary, my dissent from it is open and direct. All the later positivists regard me as a heretic. But I am a reverent heretic, nevertheless: that is, I profoundly admire the greatness and sincerity of the thinker, although he seems to have attempted a task for which the materials were not ready. And if men could approach the work with minds sufficiently open to receive instruction from teachers whom on the whole they refuse to follow, capable of setting aside differences, to seize upon and profit by agreements, they would carry away from the *Politique* many luminous suggestions, and that ennobling influence which always rays out from a moral conviction. They must be prepared to find passages to marvel at, passages to laugh at, and passages to fling hard words at. But they will detect even in these the presence of a magisterial intellect carried by the deductive impetus beyond the limits of common prudence; they will detect nothing of the incoherence of insanity. Even the startling suggestion which he propounds on the basis of what he himself calls a daring hypothesis—i.e. that of the *Vierge Mère*—is a legitimate deduction from what many regard as established data; it happens to be absurd because the data are profoundly erroneous, although they have been, and still are, accepted by many scientific men as truths. Had the data been true, the deduction would have been as admirable as it is now laughable: it would have been a genuine scientific hypothesis.

Antagonism to the Method and certain conclusions of the *Politique Positive* led me for many years to regard that work as a deviation from the Positive Philosophy in every way unfortunate. My attitude has changed now that I have learned (from the remark of one very dear to me) to regard it as an Utopia, presenting hypotheses rather than doctrines, suggestions for future inquirers rather than dogmas for adepts—hypotheses carrying more or less of truth, and serviceable as a provisional mode of colligating facts, to be confirmed or contradicted by experience. Grave students think it no misuse of time to study the *Republic* and the *Laws* of Plato. Let them approach the *Système de Politique Positive* in a similar spirit; they will find there an intellect greater than Plato's, a morality higher and purer, and an amount of available suggestion incomparably greater.

Although no importance is to be attached to the slight cerebral attack (if attack there were) which preceded the composition of this work, there is intense biographical and psychological significance in the indications of the mental modifications which accompanied what may be called the development of the pontifical spirit in Comte. The germs are visible in his earliest years. No one can study the *Philosophie* without recognising the irrepressible tendency to domination, to a systematizing circumscription of our aims with a view to unity (without, as Mr. Mill justly remarks, any demonstration of the necessity of such unity), and to reliance on deductive reasoning irrespective of objective verification. We see only the germs, because the soil of positive science was ill-suited to their development. Obliged to employ the Objective Method throughout, he was forced to restrain these tendencies, under penalty of failure. As he grew older, and lived more and more alone, absorbed in meditation, less and less occupied with what had been effected by others, his intense self-confidence became enormously exaggerated, and the disposition to take his own feelings as sufficient guarantee and proof, grew more and more disastrous. The very vividness of his conceptions, rising up during long and lonely meditation, rendered it difficult for him to doubt their reality; while the deductive impatience natural to a systematic intellect prevented his verifying their reality. He first struck out an hypothesis; he then overleaped the next condition of testing its conformity with fact: it became a truth in his mind, and he proceeded to deduce from it as from a verified truth. The awakening of an intense emotional life, and the welcome homage of a few ardent disciples, contributed their share. The conviction of an apostolic mission grew apace. The transformation of the systematic theorist into the pontiff was rapid. Those who were subjugated by his personal influence, or fascinated by the seeming truth of his doctrines, will see a logical development in this; whereas we who stand aloof can see in it nothing but the unfortunate fatality which seems attached to deep convictions in certain powerful and arrogant natures. Those who consider Mahomet an impostor, and Loyola a malignant despot, may brand Comte with similar epithets of scorn or hatred. But if with a deeper sympathy and wider knowledge we mark the line between infirmity and strength, recognising that where the lights are brightest there the shadows are darkest, we shall be careful not to confound a common infirmity with an uncommon greatness. Hundreds of men have been as vain, as arrogant, as despotic in their ideas; but how many have been as severely ascetic, as profoundly moral, as devoted to high thoughts, and as magnificently endowed? We need not accept the errors of a great mind because of its greatness; but ought we to forget the greatness when we reject the errors?

After the publication of the *Politique* there is little of biographical importance to be added. In 1852 he had published the *Catéchisme Positiviste*, a little work which, I think, has done more to retard the acceptance of his views than all the attacks of antagonists. It contains many profound and noble passages, and to thorough disciples is doubtless a precious work; but it should have been an esoteric work, at least for many years. Catechisms are for the converted. The objections to this one, apart from the ideas which, to all but believers, must appear without adequate foundation, are, first, that being brief and popular in form it is seized on by those who wish to 'know something about Comte' and are unwilling to take the requisite labour of reading the more serious works; secondly, because he was incapable of conducting a popular exposition in a dramatic form, and a perpetual sense of the ridiculous accompanies the reader, preventing his giving serious attention to the matter; thirdly, because in this unpromising and unconvincing form it puts forth ideas which could only escape ridicule and indignation by a very earnest, logical, and persuasive exposition. If my voice can have the slightest weight with the reader, I beg him not to open the Catechism until he has carefully studied the two great works by which Comte will live in history.

The *Synthèse Subjective* he did not live to finish. It contains some precious thoughts, and much that is startling and extravagant. I am given to understand that some eminent mathematicians think highly of the mathematical philosophy it propounds.

Dr. Robinet has sketched the routine of Comte's daily life in these later years. The picture should be meditated by those whose theological irritation has led them to throw hard words at this 'materialist and scoffer.' He rose at five in the morning, prayed, meditated, and wrote until seven in the evening, with brief intervals for his two meals. Every day he read a chapter from the *Imitation of Christ* and a canto of Dante. Homer also was frequently re-read. Poetry was his sole relaxation now that he could not longer indulge his passion for the opera. From seven to nine (and on Sundays in the afternoon) he received visits, especially from working men, among whom he found disciples. On Wednesday afternoons he visited the tomb of Madame de Vaux. At ten he again prayed and went to bed. The hour of prayer was to him an hour of mystic and exquisite expansion. Nothing could be simpler than his meals: breakfast consisted only of milk; dinner was more substantial, but rigorously limited. At the close of dinner he daily replaced dessert by a piece of dry bread, which he ate slowly, meditating on the numerous poor who were unable to procure even that means of nourishment in return for their work.

He died on the 5th of September, 1857, at the age of sixty, leaving behind him an immortal name, and an almost canonised position in the memory of a select few, who still carry out, with admirable energy, the efforts to establish and spread the Religion of Humanity, undismayed by the ridicule and social persecution which await every religious movement at its outset.

The increasing notoriety of the name of Auguste Comte is significant of a spreading sympathy and a spreading dread. In grave treatises and in periodical works his opinions are silently adopted, openly alluded to, and discussed with respect; but much oftener they furnish a flippant sentence to some jaunty journalist, or pander to the austere dishonesty of some polemical theologian. Indignation, scorn, and ridicule are poured forth with all the greater freedom because usually unhampered by any first-hand knowledge. It is with him as it used to be with Kant, who not many years ago was a standing butt: many who had never opened the *Kritik*, and more who would have understood nothing of it had they read it, laughed at the 'dreamer' and his 'transcendental nonsense,' without any misgiving that they were making themselves ridiculous in the eyes of those who knew something about Kant. They are now respectful or silent. Surely it is wise to be entirely silent about that of which we know ourselves to be ignorant? As if our natural liability to error were not frequently misleading us, even in our most pains-taking inquiries, we must add to it by what Mr. Mill somewhere calls 'the abuse of the privilege of speaking confidently about writers whom we have never read.' Few reflect that the exercise of this privilege is foolish; still fewer that it is dishonest. There is always peril in pretence. Silence cannot commit us. And if many delusively imagine that they do know enough of Comte to form a general estimate of him, let them ask themselves whether this knowledge is anything more than the echo of what others have said, those others being for the most part antagonists? Such a question would silence the candid; nothing will silence the garrulous and ignorant.

## § II. The Positive Philosophy.

Philosophy, as we have seen in the various phases of its history, has always had one aim, that of furnishing an Explanation of the world, of man and of society; but it has sought that aim by various routes. To solve the problems of existence, and to supply a rule of life, have constituted its purpose more or less avowed. Steady in this purpose, it has been vacillating in its means: now borrowing and now rejecting the principles and conclusions of its rival, Theology; now claiming and now violating the methods of Science; unwilling to follow either, incapable of advancing alone. We have seen it endeavouring to embrace all inquiry; and seen it in despair restricting itself to Psychology, in spite of the manifest incompetence of Psychology, even were it perfected, to furnish cosmical and social theories: an incompetence more or less recognized by metaphysicians, who refused to restrict their wide-sweeping inquiries to the mere investigation of human faculties, and the conditions of thought.

With the creation of the Positive Philosophy this vacillation ceases. A new era has dawned. For the first time in history an Explanation of the world, society, and man, is presented which is thoroughly homogeneous, and at the same time thoroughly in accordance with accurate knowledge: having the reach of an all-embracing System, it condenses human knowledge into a Doctrine, and co-ordinates all the methods by which that knowledge has been reached, and will in future be extended. Its aim is the renovation of Society. Its basis is Science—the positive knowledge we have attained, and may attain, of all phenomena whatever. Its method is the Objective Method which has justified its supremacy by its results. Its superstructure is the hierarchy of the sciences—i. e. that distribution and co-ordination of general truths which transforms the scattered and independent sciences into an organic whole wherein each part depends on all that precede, and determines all that succeed.

The cardinal distinctions of this system may be said to arise naturally from the one aim of making all speculations homogeneous. Hitherto Theology while claiming certain topics as exclusively its own (even within the domain of knowledge) left vast fields of thought untraversed. It reserved to itself Ethics and History with occasional incursions into Psychology; but it left all cosmical problems to be settled by Science, and many psychological and biological problems to be settled by Metaphysics. On the other hand Science claiming absolute dominion over all cosmical and biological problems, left Morals and Politics to metaphysicians and theologians, with only an occasional and incidental effort to bring these also under its sway. Thus while it is clear that society needs one Faith, one Doctrine, which shall satisfy the whole intellectual needs, on the other hand it is clear that such a Doctrine is impossible so long as three antagonistic lines of thought and three antagonistic modes of investigation are adopted. Such is, and has long been, the condition of Europe. A glance suffices to see that there is no one Doctrine *general* enough to embrace *all* knowledge, and sufficiently warranted by experience to carry irresistible conviction.

Look at the state of Theology:—Catholicism and Protestantism make one great division; but within the sphere of each we see numerous subdivisions; the variety of sects is daily increasing. Each sect has remarkable men amongst its members; but each refuses to admit the doctrines of the others. There is, in fact, no one general doctrine capable of uniting Catholics, Protestants, and their subdivisions. Look also at the state of Philosophy. There is no one system universally accepted; there are as many philosophies as there are speculative nations, almost as many as there are professors. The systems of Germany are held in England and Scotland as the dreams of alchemists; the Psychology of Scotland is laughed at in Germany, and neglected in England and France. Besides this general dissidence, we see, in France and Germany at least, great opposition between Theology and Philosophy openly pronounced. This opposition is inevitable: it lies in the very nature of Philosophy: and although, now as heretofore, many professors eagerly argue that the two are perfectly compatible and accordant, the discordance is, and always must be, apparent.

With respect to general doctrines, then, we find the state of Europe to be this: Theologies opposed to Theologies; Philosophies opposed to Philosophies; and Theology and Philosophy at war with each other. Such is the anarchy in the higher regions.

In the sciences there is less dissidence, but there is the same absence of any general doctrine; each science is on a firm basis, and rapidly improves; but a Philosophy of Science was nowhere to be found when Auguste Comte came forward with the express purpose of supplying the deficiency. The *speciality* of most scientific men, and their incapacity of either producing or accepting general ideas, had long been a matter of complaint; and this has been one great cause of the continuance of Metaphysics; for men of speculative ability saw clearly enough that however exact each science might be in itself, it could only form a part of Philosophy. Moreover the evil of speciality is not confined to neglecting the whole for the sake of the parts; it affects the very highest condition of Science, namely, its capability of instructing and directing Society.

In the early ages of speculation, general views were eagerly sought and easily obtained. As Science became rich and complex in materials, various divisions took place; and one man cultivated one science, another man another. Even then general views were not absent. But as the tide rolled on, discovery succeeding discovery, and new tracts of inquiry leading to vast wildernesses of undiscovered truth, it became necessary for one man to devote himself only to a small fraction of a science, which he pursued, leaving to others the task of bringing his researches under their general head. Such a minute division of labour was necessary for the successful prosecution of minute and laborious researches; but it ended in making men of science regard *only* the individual parts of science; the construction of general doctrines was left to philosophers. A fatal error; for such doctrines could only be truly constructed out of the materials of Science and upon the Method of Science.

In the present state of things the speculative domain is composed of two very different portions,—general ideas and positive sciences. The general ideas are powerless because they are not positive: the positive sciences are powerless because they are not general. The new Philosophy is destined to put an end to this anarchy, by presenting a Doctrine which is *positive*, because elaborated from the sciences, and yet possessing all the desired *generality* of metaphysical doctrines, without possessing their vagueness, instability, and inapplicability.

How is this to be effected? Obviously by taking Science as the basis. The teaching of history is clear. Everywhere, Science with its all-conquering Methods is seen steadily advancing, drawing more and more subjects under its rule, yielding answers to more and more problems, while Theology and Metaphysics remain impotent to furnish satisfactory answers, and are constantly found in flagrant contradiction with the certainties of experience. There are but three modes of explaining phenomena, and of these the scientific daily gains strength, the other two daily lose their hold upon men. If the present anarchy is due to the simultaneous employment of three radically incompatible modes of thought, obviously the cessation of that anarchy must follow on the general adoption of only one of these modes of thought. The question is, which are we to select? When Theology was supreme there was unity in doctrine and unity in life. All men accepted the theological explanation of the world, man and society. But in proportion as knowledge advanced this explanation was discovered to be incessantly in contradiction with experience. If, therefore, we are to select the theological mode of thought as our guide, and the theological explanation of the Cosmos and Society as our doctrine, we must ignore all experience, sweep away all science, and appeal to the Pope or to the Archbishop of Canterbury for answers to the questions in Astronomy, Physics, Chemistry, Biology, and Sociology, which our pressing needs or speculative curiosity may force upon us. Is Europe prepared for this? Is any one nation prepared for it? Is any cultivated mind prepared for it?

The incompetence of Metaphysics has been clearly exhibited in this History. Nothing, therefore, but Science remains. Nevertheless, Science itself only furnishes the basis. It must be transformed into a Philosophy before it can satisfy the higher needs. Even the encyclopædic knowledge of a Humboldt was powerless, because it was scientific knowledge, not Philosophy; and because, moreover, even as scientific knowledge it had the fatal defect of incompleteness—it embraced cosmical, but excluded sociological speculations. Supposing Humboldt to have mastered, what he was far from conceiving, the philosophy of the cosmical sciences, he would still have left the great problem untouched, he would have failed to propound a homogeneous doctrine, since he would have left the vast and important field of moral speculation to theologians or metaphysicians. The completion of the scientific encyclopædia was therefore a necessary preliminary; and this was effected by the creation of Sociology, as a science ranking with the cosmical sciences. This task was reserved for the genius of Auguste Comte. Having done this, he held in his hand the complete materials for an universal Philosophy. All human knowledge was now capable of being treated as a homogeneous and organic whole, one spirit, one method, and one aim presiding over each department.

But this was only the first step, though a step of immense importance. Having before him the materials of a Philosophy, materials furnished by the efforts of all preceding generations, he had next to organise them. The several sciences had to furnish their philosophies, and to yield a

Philosophy which embraced the whole. The philosophy of each science is the coordination of its fundamental truths and special methods; consequently the coordination of these philosophies—the proper distribution of these truths and methods in a dependent series—will yield the Philosophy of Science.

We shall have to consider this organization of the sciences more in detail hereafter; for the present it is enough to point out the position it occupies in the evolution of the new doctrine. When we add thereto the Law of Development, through the theological, metaphysical, and positive stages (of which also more anon), we have completed an indication of the great legacy Comte has left. These are his contributions, his titles to immortal fame. They have been and will be disputed, as all other titles have been and will be. Some deny that they are his; others deny that they are of value. I shall not discuss these questions. But although I consider discussions respecting originality to be commonly interminable and idle, there is one point which may profitably be noticed, and that is the confusion between the positive spirit and method, and the Positive Philosophy, a confusion which once cleared up may prevent much idle dissertation.

What is called the positive or scientific spirit is coeval with Science; indeed, only in that spirit is Science possible; and from the time of Galileo, Bacon, and Descartes, it dates its recognition as a distinct power. In this sense, therefore, we may truly say that positive thinkers have never been wanting, and that the whole course of tradition has set steadily in the direction of the new doctrine. Even the untutored savage so far employed the Objective Method that in certain very familiar and accessible phenomena he was content with the visible and tangible properties, and never sought outlying agencies to account for them. As knowledge advanced men withdrew more and more phenomena from the regency of outlying agencies, and placed them under the regency of immanent properties: deities and entities were replaced by laws.

But the Method was only partially applied. In all cases not sufficiently explored men continued—and the majority still continues—to place unhesitating reliance on the action of outlying agencies, simply because they had not discovered the immanent properties. Hence the continuous spectacle of minds completely dominated by the scientific Method in Astronomy, Physics, and Chemistry, unwilling to extend their principles to Biology, disdainful of the proposal to apply them to Psychology, and regarding it as both foolish and wicked to apply them to History, Politics, and Morals.

If, however, the Positive Method is in germ as old as Science, and if with gradual and ever-accelerated velocity it has encroached upon and absorbed each department of inquiry, so that we now see its final adoption to be inevitable,* this does not in any way lessen Comte's originality, does not diminish the need for a Positive Philosophy, as the offspring of that Method. Positive thinkers may be counted by thousands, but no one before Comte had a glimpse of the Positive Philosophy. Thousands had cultivated Science, and with splendid success; not one had conceived the Philosophy which the sciences when organized would naturally evolve. A few had seen the necessity of extending the scientific Method to *all* inquiries, but no one had seen how this was to be effected; and the proof of this is exhibited in the vague and fragmentary nature of all previous attempts, and in the absence of all vision of it as a renovating and harmonizing principle which could transform Science into a Philosophy and thus furnish a homogeneous

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* 'Pour terminer radicalement ce désordre la seule manière est de le détruire dans son principe, en ramenant le système intellectuel à l'unité. Or cela ne peut se faire que de deux manières : ou bien en rendant à la philosophie théologique (car il est inutile de parler ici de la métaphysique, qui ne serait jamais qu'une transition) toute l'influence qu'elle a perdue ; ou bien en complétant la philosophie positive de façon à la rendre capable de remplacer définitivement la théologie. Si donc on regarde comme démontrée l'impossibilité de rétablir la théologie dans toute l'étendue de son ancien empire, il n'y a pas d'autre solution admissible que la formation définitive de la philosophie positive.'—*Politique Positive*, IV. *Appendice*, p. 160.

Doctrine. In this, as in most other parts of the system, we see how Comte gathered together in one luminous focus the scattered rays which issued from various sides. So long as the rays were scattered men could read but little by their light.

The Positive Philosophy is novel *as* a Philosophy, not as a collection of truths never before suspected. Its novelty is the organization of existing elements. Its very principle implies the absorption of all that great thinkers had achieved; while incorporating their results it extended their methods. To assert, therefore, that Comte only placed himself in the ranks of the advancing column, filling a place which would have otherwise been filled by others, is, I conceive, an immense mistake; and I regret to find Mr. Herbert Spencer countenancing it; though his avowedly superficial acquaintance with the system renders the error excusable. He says, 'M. Comte designated by the term "Positive Philosophy" all that definitely-established knowledge which men of science have been gradually organizing into a coherent body of doctrine.'[*] Not so: the 'coherent body of doctrine' was precisely that which no one had ever attempted since Science emerged from its metaphysical condition. And Mr. Mill, following in the same track, says, 'the philosophy called Positive is not a recent invention of M. Comte, but a *simple adherence to the traditions* of all the great scientific minds—whose discoveries have made the human race what it is. M. Comte has never presented it in any other light (!) But he has made the doctrine his own by his manner of treating it.'[†] M. Littré, with just astonishment, exclaims, 'The great scientific minds? This term implies what seems to me a confusion. Does it mean the philosophers? Why, the philosophers, one and all, have belonged to theology or metaphysics, and it is not their tradition which M. Comte has followed. Does it mean those who have illustrated particular sciences? Well, since they have not philosophised, M. Comte cannot have received his philosophy from them. That which is recent in the positive philosophy, that which is M. Comte's invention, is the conception and construction of a philosophy, by drawing from particular sciences, and from the teaching of great scientific minds, such groups of truths as could be co-ordinated on the positive method.'*

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[*] SPENCER: *The Classification of the Sciences*, 1864, p. 28.

[†] MILL: *Auguste Comte and Positivism*, 1865, p. 9.

On reconsideration Mr. Mill may perhaps admit that the light which flashed upon his own mind when first he became acquainted with Comte's work was something essentially unlike what would have issued from a simple adherence to tradition. He had little to learn on the score of what great thinkers had taught, and must have known but too well that they had no coherent body of doctrine to teach. Further, he will admit that Comte, who was keenly alive to the debt he owed his predecessors,† and nobly generous in his recognition of even a suggestion, would have been astonished to hear that what he regarded as his great achievement—the organization of the results of research into a doctrine—was no more than an adherence to tradition. What tradition brought was the results; what Comte brought was the organization of those results. He always claimed to be the founder of the Positive Philosophy. That he had every right to such a title is demonstrable to all who distinguish between the positive sciences and the Philosophy which coordinated the truths and methods of those sciences into a Doctrine. The achievement was great and novel; but its very perfection, which arises from its intimate harmony with all the great results of scientific research, prevents the feeling of strangeness which usually accompanies novelty.

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* *Revue des Deux Mondes*, 15 Août 1866.

† 'Nous avons ainsi systématiquement réalisé une évolution individuelle radicalement conforme à l'évolution nécessaire de l'humanité, que l'on peut maintenant se borner à considérer ici à partir de l'impulsion décisive déterminée par la double action philosophique et scientifique émanée de Bacon et de Descartes conjointement avec Kepler et Galilée. . . . En outre l'homogénéité continue de ces diverses déterminations partielles nous a spontanément manifesté leur convergence croissante vers une même philosophie finale. Pour caractériser convenablement cette philosophie il ne nous reste donc plus qu'à indiquer la co-ordination définitive de ces différentes conceptions essentielles, d'abord logiques puis scientifiques d'après un principe d'unité réellement susceptible d'une telle efficacité, afin de pouvoir signaler la véritable activité normale réservée au système qui doit devenir la base usuelle du régime spirituel de l'humanité.'—*Philosophie Positive*, VI. p. 645-6; compare the passage in the Appendix to the *Politique Positive*, IV. p. 91.

Having thus defined the position of the new Philosophy in History, and Comte's relation to it, we may look a little closer into its nature. The creation of Sociology, by which the series of the sciences was completed, will perhaps best be appreciated after an exposition of his classification of the sciences. This indisputably was entirely his own, and so far from being simply an ingenious arrangement without capital importance, as many critics have supposed, it is nothing less than the organization of the sciences into a Philosophy. For let us understand the problem:—Given human knowledge in its multiplicity of details and vast extent, how on this basis, and with these materials, to raise a general Doctrine? All must be included, or the Doctrine will be incomplete; no established truths must be contradicted, or the Doctrine will be imperfect. There was no great difficulty in constructing a Philosophy by the aid of one or more of the sciences, selecting such truths as suited the construction, and neglecting such as were adverse to it. That had been done by hundreds. But nothing could be gained by that. The old difficulty remained. To construct a Doctrine which should harmonize all results and embrace all methods, was the labour imposed upon Philosophy. In the presence of the vast accumulations of modern Science the task seemed hopeless. How was any one mind to master all the sciences, and, having mastered them, reduce them to an intelligible system? What lifetime could extend far enough even to traverse these fields, and roads, and byeways? Obviously the first step to be taken was to reduce the chaos to order, to make such a general disposition of the various groups as would enable the mind to see their main bearings—in a word to classify the groups, as each group itself had classified the phenomena it studied. If the reader is unacquainted with Comte's classification he will be in the true condition for appreciating the immensity of the effort. Let him ask himself how he would proceed if in presence of the vast multiplicity of sciences already established he had to introduce such an order as would of itself constitute a Philosophy because it would represent the serial dependence of all natural phenomena?

The first luminous conception which enabled Comte to discover this order was the fundamental distribution of all sciences into Abstract and Concrete. The abstract sciences are those which treat of the elementary laws, or general facts, on which all the particular facts depend; they are called abstract because in them the mind fixing itself solely on some elementary fact which it discovers under a great variety of phenomena, or complicated with other elementary facts, abstracts this from all its surroundings, purifies it from all its variations, and considers it in itself. Thus all bodies whatever present the elementary facts of Number, Form, and Movement; they present other facts besides these, but these can be considered apart, and from them arise Algebra, Geometry, and Mechanics. Besides Number, Form, and Movement, bodies present facts of Weight, Temperature, Luminousness, &c., which likewise can be considered apart, and Physics is the abstract science of these facts. Further we find bodies presenting facts of combination and decomposition, and Chemistry results. Finally we find certain bodies presenting facts of growth, reproduction, and sensation, and these facts we abstract in Biology.

Whether there are elementary facts capable of being abstracted from social phenomena and yielding a Sociology may, for the present, be left in abeyance: the groups just indicated are groups admitted by every thinker. An attentive consideration of them discloses that they embrace all the elementary facts we have hitherto been able to abstract from cosmical phenomena; and all of these we have been able to consider apart, as pure relations without reference to any special occasion, or any variations in the manifestation of the phenomena. Thus the physical phenomena of falling bodies are variable and complicated, but the physical law is invariable and simple: the circumstances may vary, the heights may differ, but the relation of the height fallen through to the time of falling remains invariable.

Not only do these groups comprise the whole of the elementary cosmical facts, but implicitly in these facts are comprised all the multiple and complex phenomena ranged under the concrete sciences, which treat of objects as actually presented to us under the conditions of time and space. Geology is a concrete science; so is Mineralogy; so is Botany. Each deals with objects, not with abstract relations. Each considers existences as determined by complex conditions. The rock, the mineral, or the flower is considered as an object involving more or less of the elementary facts of Mathematics, Physics, Chemistry, and Biology; and only through the knowledge of these elementary facts can the objects be known except empirically.

D'Alembert has noticed the paradox that 'les notions les plus abstraites, celles que le commun des hommes regarde comme les plus inaccessibles, sont souvent celles qui portent avec elles une plus grande lumière; l'obscurité s'empare de nos idées à mesure que nous examinons dans un objet plus de propriétés sensibles.'* But the paradox disappears when we reflect that these abstract ideas express the elementary and constant relations of the complex and variable phenomena. It is true that the discovery of these simple relations is a laborious task. At first man is observant only of particular phenomena in their isolation: he then begins to perceive their connexions; and finally decomposes them into their constant relations—this is the birth of Science, which only occupies itself with relations of succession and coexistence.

Abstract Science then is the knowledge of the elementary facts, or Laws of phenomena; Concrete Science is the knowledge of objects as actual combinations of these elements. The one investigates existence, the other individuals. The abstract sciences necessarily precede the concrete sciences in dogmatic value; and they suffice to furnish a Philosophy, since they comprise the elements of all speculative knowledge in comprising the elementary facts of universal existence.

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* D'Alembert: *Discours Préliminaire de l'Encyclopédie.*

What is a law? what is an elementary fact of existence? It is the invariable relation between two distinct phenomena, according to which one depends on the other; the relation being invariable, the only variation which is possible is in the *intensity* of the phenomena or their *direction*. Here therefore we have two distinct aspects of Nature: one which is inaccessible to human intervention, uncontrollable by human skill, a Fatality which must be accepted; and another which is accessible to human intervention, a Modifiability which enables us to convert the Fatality into a power for our benefit. The Laws of Nature are immutable. But owing to this, the resultant phenomena are so far modifiable that their directions may be adapted to our service. We cannot create or destroy a particle of Matter, or a moment of Force; but we can so arrange Matter that the Force shall be our servant.* It is the very unchangeableness of the Laws which renders their results modifiable. Because the course is unswerving, it can be accurately measured, accurately foreseen, accurately directed. The phenomena are but combinations of elementary laws. Each law preserving its value under all circumstances, never varying one iota, we know precisely what will be its value in combination with other laws. The simplest illustration of this is the composition of forces in Mechanics: among the more striking illustrations are the triumphs of discovery on the one side, and of mechanical inventions on the other. Owing to this unchangeableness, a mathematician working with symbols in his study can tell the astronomer to point his telescope in a particular direction, and there for the first time will be seen a planet which has a revolution of 164 years 6 days, and which is twenty-five times as large as our earth; and the astronomer, confident in the previsions of

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* 'En considérant que chaque groupe de phénomènes ne peut jamais être entièrement fixe on reconnait que l'immuabilité des lois naturelles ne saurait convenir aux événements composés, et reste toujours bornée à leurs éléments irréductibles.'—*Synthèse Subjective*, p. 7.

Science, discovers what he is told will be discovered. The formula 'under similar circumstances similar phenomena will appear' carries with it the consequence that when the phenomena are different it is owing to some difference in the circumstances. Not only so, but when the phenomena differ owing to an alteration in the circumstances, there still exist the same fixed relations between them; thus proving that the variations have been variations in the combination of elementary Laws, leaving these Laws unaltered. In other words, the Universe is governed by immutable Laws, general facts which determine all particular facts; and the Abstract Sciences are the registration of these general facts, as the Concrete Sciences are of the particular facts.

Although the division into Abstract and Concrete Sciences, the latter depending on the former, was of absolute importance as a first step, there still remained the need of a classification of the Abstract Sciences themselves, if they were to yield a Doctrine; and the execution of this difficult task displays the genius of Auguste Comte. But the operation seems so easy now it is accomplished, especially to those who have not long meditated on the nature of the problem, that he rarely gains the credit which is his due. Any vulgar mariner can reach America after Columbus.

The classification differs from all previous classifications, as that of Jussieu, in Botany, differed from those of Linnæus and Tournefort, namely, in grounding its divisions on the natural distinctions presented by the phenomena, not on any conception of symmetry or convenience. It is an objective grouping, not a subjective grouping. The principle adopted is that which permeates the Positive Philosophy, namely, the principle of dependence. The Concrete Sciences are separated from the Abstract Sciences because they exhibit particular cases of the general laws, and depend upon them. In like manner the Abstract Sciences themselves are ranged in a serial order constituted by their gradations of dependence; one succeeds the other according to the principle of decreasing generality and increasing complexity, that which has phenomena the most general and least complex

(Mathematics) standing first, and that which has phenomena the least general and most complex (Sociology) standing last. Between these terms the sciences are so distributed that each serves as a necessary introduction to the comprehension of its successors, and each becomes an instrument of exploration taken up by the mind in traversing the field of philosophic investigation. Not only so, but because the series represents the natural order it cannot anywhere be inverted. Each science after the first, embraces phenomena which can only be explained by the laws of the science preceding it in addition to laws peculiarly its own. Thus the truths of Number are the most general truths of all; they are true of all things whatever; all things depend on them, but they depend on no prior conditions. A science of Number, i.e. Arithmetic and Algebra, may thus be studied without reference to any other science. Next in order of generality and simplicity stand the truths of Form: Geometry presupposes the laws of Number, and must therefore be studied with reference to them, but requires no other aids. Then come the truths of Motion, which furnish the science of Mechanics: here we find the operation of the laws of Number and Form necessarily determining the laws of Motion; so that while it is quite feasible to study Algebra and Geometry in ignorance of Mechanics, it is impossible even to state the laws of Equilibrium and Motion without involving the laws of Number and Form. The movement of a body oscillating round a fixed point is determined by the form of that body; but its form is independent of this movement. In Astronomy we have phenomena which depend on these preceding laws of Number, Form, and Motion, and besides these on the law of Gravitation, which law in no way affects the laws of Mathematics. Physics succeeds, and presents us with phenomena which depend on mathematical laws and—inasmuch as all terrestrial phenomena are affected by influences derived from the heavenly bodies—on astronomical laws. Chemistry presents us with phenomena of a peculiar kind, but these are all seen to be influenced by the laws of Physics, Astronomy, and Mathematics, though they cannot in turn be said to influence these laws. Biology presents us with phenomena of Life, obviously dependent on laws of Chemistry, Physics, Astronomy, and Mathematics, and obviously not influencing these. Finally we have the laws of social existence, embracing the phenomena of human society (Sociology), and these clearly depend on the laws of organic life, and through them on the laws of inorganic nature, on the vital and physical conditions which alone permit society to exist and be developed. But just as it is impossible to deduce social phenomena from biological and physical laws alone, without the aid of laws peculiar to social existence, so is it impossible to deduce vital phenomena from chemical and physical laws, impossible to deduce chemical phenomena from physical and mathematical laws, and impossible to deduce physical phenomena from mathematical laws alone *: thus each science adds its own peculiar group of laws to all those which precede it in the series, and each gathers up into its grasp the methods and results of all that have gone before it, serving in turn as a stepping-stone to that which comes after it.

Thus does the series embrace all human knowledge † as regards the elementary laws of the world, man, and society. It represents both the objective dependence of the phenomena, and the subjective dependence of our means of knowing them. It constructs a series which makes all the separate sciences organic parts of one Science; and it enables the several philosophies to yield a Doctrine which is, what no other Doctrine has ever been, coextensive with human knowledge, and homogeneous throughout its whole extent: that is to say, while theological and metaphysical systems have necessarily been constructed out of heterogeneous

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* Impossible at present, and likely to remain so for some generations, although a prophetic view discerns in the distant future a reduction of all cosmical phenomena to Mechanics; the doctrine of vibrations will then be the Abstract Science of which all cosmical sciences will be the Concretes.

† In his later speculations, COMTE added a seventh science under the name of Morals, separating its subject-matter from Biology and Sociology. This does not affect the classification, however.

materials, and have either omitted scientific questions, or else have been forced with them to admit the scientific Method on which answers could be gained, this Doctrine treats all knowledge in one spirit, and views the whole Cosmos in one light.

Exactly five-and-twenty years have passed since I first became acquainted with this serial arrangement of the sciences, and, during the interval, its value has been repeatedly tested in the course of my researches both in Science and in the History of Science. Great as that value has been to me, I have several times felt my confidence in it faltering in the presence of facts: these hesitations, however, successively subsided, and left behind them an increased conviction of the importance of the classification. This personal experience is not cited as an argument in favour of the series, but simply as an intimation to the earnest student that he may expect to find doubts arising, and should be slow to condemn it directly it seems imperfect. Only a long application of it will enable him thoroughly to appreciate its value and to set aside certain superficial objections. As to the adverse criticisms of it which have been published, those at least which have fallen in my way, I cannot confess that any of my hesitations came from them. The critics have not taken the trouble to master the principles of the classification; not one of them seems to have considered what the object was, nor how such an object constituted an integral part of the Positive Philosophy. Usually they speak of it as if it were a more or less ingenious arrangement, of no great moment in itself, and easily replaced by some other ingenious scheme. Of its vital importance in the study of Science, and in History, no suspicion is felt. I except, in some degree, Mr. Herbert Spencer, though he also seems to have misapprehended the spirit and aim of the classification, which he has attacked with his usual vigour and acumen in a remarkable essay on the 'Genesis of Science,'* not, I think, with success: and his ill-success appears in stronger relief in the classification which he proposes as a substitute.[*] M. Littré has examined and satisfactorily refuted his criticisms,[†] and Mr. Mill remarks that 'after giving to his animadversions the respectful attention due to all that comes from Mr. Spencer, we cannot find that he has made out any case. It is always easy to find fault with a classification. There are a hundred possible ways of arranging any set of objects, and something may almost always be said against the best, and in favour of the worst of them. But the merits of a classification depend on the purposes to which it is instrumental. We have shown the purposes for which M. Comte's classification is intended. Mr. Spencer has not shown that it is ill-adapted to those purposes; and we cannot perceive that his own answers any ends equally important. His chief objection is that if the more special sciences need the truths of the more general ones, the latter also need some of those of the former, and have at times been stopped in their progress by the imperfect state of the sciences which follow long after them in M. Comte's scale; so that the dependence being mutual, there is a *consensus*, but not an ascending scale or hierarchy of the sciences. That the earlier sciences derive help from the later is undoubtedly true; it is part of M. Comte's theory, and amply exemplified in the details of his work.[‡] When he affirms that one science historically precedes another, he does not mean that the perfection of the first precedes the humblest commencement of those which follow. Mr. Spencer does not distinguish between the empirical stage of the cultivation of a branch of knowledge, and the scientific stage.'

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* SPENCER: *Essays, First Series*, 1858.

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[*] *The Classification of the Sciences*, 1864.

[†] *Auguste Comte et la Philosophie Positive*, chap. vi.

[‡] Mr. Mill might here have quoted the explicit language of Comte in introducing his classification: 'En effet non seulement les diverses parties de chaque science qu'on est conduit à séparer dans l'ordre *dogmatique* se sont, en réalité, développées simultanément et sous l'influence les unes des autres, ce qui tendrait à faire préférer l'ordre *historique*; mais en considérant, dans son ensemble, le développement effectif de l'esprit humain, on voit de plus que les différentes sciences ont été dans le fait perfectionnées en même temps et mutuellement; on voit même que le progrès des sciences et ceux des arts ont dépendu les uns des autres, par d'innombrables influences réciproques, et enfin tout ont été étroitement liés au développement général de la société humaine.' *Philosophie Positive*, i. 81; and a little further on he adds that no classification can be rigorously conformable with the historical development. 'Il faut tâcher seulement qu'un tel inconvénient n'ait lieu relativement aux conceptions caractéristiques de chaque science.' Comp. *Politique Positive*, iii. 41.

Neither M. Littré nor Mr. Mill has noticed the initial principle of Mr. Spencer's criticism, which is that of the rejection of all distribution of the sciences into a series. 'Did we believe a serial arrangement possible,' he says, 'that of M. Comte would certainly be the one we should adopt.' But he dissents from the conception. 'There is no one *rational* order among a host of possible systems. There is no true *filiation* of the sciences. The whole hypothesis is fundamentally false: indeed, it needs but a glance at its origin to see at once how baseless it is. Why a *series*? What reason can we have to suppose that the sciences admit of a *linear* arrangement? Where is our warrant for assuming that there is some *succession* in which they can be placed? There is no reason; no warrant.'*

No reason? The best of reasons! No warrant? The strongest warrant! The reason for supposing that the sciences admit of a linear arrangement is the fact that the corresponding phenomena admit of it; the dependence of physical laws on the mathematical, and of chemical laws on the physical, and of biological laws on the chemical, is not a figment of Comte's, but an observed fact. As Bichât says of his own classification of the tissues, 'c'est la nature, et non la science, qui a tiré une ligne de démarcation entre eux.' And the warrant for assuming that there is some succession in which the sciences can be placed, is that the effective study of these sciences demands such a succession as the one corresponding to the successive complexity of the phenomena. It is quite true, and no one was more alive to it than Comte, that all the sciences are interwoven, and that the highest seeks aid in the lowest; but because of this are we to reject the immense speculative assistance of a serial arrangement? Mr. Spencer asks, why is a series necessary? It is necessary on grounds similar to those which require that the various truths constituting a science should be systematically co-ordinated, although in nature the phenomena are intermingled. That classification of ideas which transforms Common Knowledge into Science, arranging the phenomena in the order of their dependence, and bringing the particular under the general relations, which makes the heterogeneous parts assume a homogeneous unity,—must also be performed for the several sciences. And this operation Comte has effected. No one else has done it.

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* SPENCER: *Essays*, pp. 171–183.

Because the hierarchy of the sciences is an integral part of the Positive Philosophy it has claimed this somewhat lengthy notice, which is still, however, too brief except as a general indication. We must now pass to another integral part of the doctrine, namely, the creation of a new science, Sociology, which was rendered possible by Comte's discovery of the Law of Evolution.

The necessity of reducing social phenomena to scientific Method had long been felt. The daily increasing disregard for theological and metaphysical habits of thought, and the growing conviction that the Method which had been proved so brilliantly successful in explaining cosmical phenomena ought also to be applied to social phenomena, received a further impulse when the idea became general that social phenomena were in reality subject to Law, and consequently were as capable of scientific investigation as all other phenomena, only far more complicated and difficult. But it is one thing to conceive generally that social science is possible, another thing to create the science. Mr. Mill holds that Comte first made the creation of this science possible, but denies that he created it; as I shall presently have to urge Comte's claim, I will borrow his critic's exposition of what he accepts:—

'The Method proper to the Science of Society must be, in substance, the same as in all other sciences; the interrogation and interpretation of experience, by the twofold process of Induction and Deduction. But its mode of practising these operations has features of peculiarity. In general, Induction furnishes to science the laws of the elementary facts, from which, when known, those of the complex combinations are thought out deductively: specific observation of complex phænomena yields no general laws, or only empirical ones; its scientific function is to verify the laws obtained by deduction. This mode of philosophizing is not adequate to the exigencies of sociological investigation. In social phænomena the elementary facts are feelings and actions, and the laws of these are the laws of human nature, social facts being the results of human acts and situations. Since, then, the phænomena of man in society result from his nature as an individual being, it might be thought that the proper mode of constructing a positive Social Science must be by deducing it from the general laws of human nature, using the facts of history merely for verification. Such, accordingly, has been the conception of social science by many of those who have endeavoured to render it positive, particularly by the school of Bentham. M. Comte considers this as an error. We may, he says, draw from the universal laws of human nature some conclusions (though even these, we think, rather precarious) concerning the very earliest stages of human progress, of which there are either no, or very imperfect, historical records. But as society proceeds in its development, its phænomena are determined, more and more, not by the simple tendencies of universal human nature, but by the accumulated influence of past generations over the present. The human beings themselves, on the laws of whose nature the facts of history depend, are not abstract or universal but historical human beings, already shaped, and made what they are, by human society. This being the case, no powers of deduction could enable any one starting from the mere conception of the Being Man, placed in a world such as the earth may have been before the commencement of human agency, to predict and calculate the phænomena of his development such as they have in fact proved. If the facts of history, empirically considered, had not given rise to any generalizations, a deductive study of history could never have reached higher than more or less plausible conjecture. By good fortune (for the case might easily have been otherwise) the history of our species, looked at as a comprehensive whole, does exhibit a determinate course, a certain order of development: though history alone cannot prove this to be a necessary law, as distinguished from a temporary accident. Here, therefore, begins the office of Biology (or, as we should say, of Psychology) in the social science. The universal laws of human nature are part of the data of sociology, but in using them we must reverse the method of the deductive physical sciences: for while, in these, specific experience commonly serves to verify laws arrived at by deduction, in sociology it is specific experience which suggests the laws, and deduction which verifies them. If a sociological theory, collected from historical evidence, contradicts the established general laws of human nature; if (to use M. Comte's instances) it implies, in the mass of mankind, any very decided natural bent, either in a good or in a bad direction; if it supposes that the reason, in average human beings, predominates over the desires, or the disinterested desires over the personal; we may know that history has been misinterpreted, and that the theory is false. On the other hand, if laws of social phænomena, empirically generalized from history, can when once suggested be affiliated to the known laws of human nature; if the direction actually taken by the developments and changes of human society, can be seen to be such as the properties of man and of his dwelling-place made antecedently probable, the empirical generalizations are raised into positive laws, and Sociology becomes a science.

'Much has been said and written for centuries past, by the practical or empirical school of politicians, in condemnation of theories founded on principles of human nature, without an historical basis; and the theorists, in their turn, have successfully retaliated on the practicalists. But we know not any thinker who, before M. Comte, had penetrated to the philosophy of the matter, and placed the necessity of historical studies as the foundation of sociological speculation on the true footing. From this time any political thinker who fancies himself able to dispense with a connected view of the great facts of history, as a chain of causes and effects, must be regarded as below the level of the age; while the vulgar mode of using history, by looking in it for parallel cases, as if any cases were parallel, or as if a single instance, or even many instances not compared and analysed, could reveal a law, will be more than ever, and irrevocably, discredited.

'The inversion of the ordinary relation between Deduction and Induction is not the only point in which, according to M. Comte, the Method proper to Sociology differs from that of the sciences of inorganic nature. The common order of science proceeds from the details to the whole. The method of Sociology should proceed from the whole to the details. There is no universal principle for the order of study, but that of proceeding from the known to the unknown; finding our way to the facts at whatever point is most open to our observation. In the phænomena of the social state, the collective phænomenon is more accessible to us than the parts of which it is composed. This is already, in a great degree, true of the mere animal body. It is essential to the idea of an organism, and it is even more true of the social organism than of the individual. The state of every part of the social whole at any time is intimately connected with the contemporaneous state of all the others. Religious belief, philosophy, science, the fine arts, the industrial arts, commerce, navigation, government, all are in close mutual dependence on one another, insomuch that when any considerable change takes place in one, we may know that a parallel change in all the others has preceded or will follow it. The progress of society from one general state to another is not an aggregate of partial changes, but the product of a single impulse, acting through all the partial agencies, and can therefore be most easily traced by studying them together. Could it even be detected in them separately, its true nature could not be understood except by examining them in the *ensemble*. In constructing, therefore, a theory of society, all the different aspects of the social organization must be taken into consideration at once.'

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'There is one more point in the general philosophy of sociology requiring notice. Social phænomena, like all others, present two aspects, the statical, and the dynamical; the phænomena of equilibrium, and those of motion. The statical aspect is that of the laws of social existence, considered abstractedly from progress, and confined to what is common to the progressive and the stationary state. The dynamical aspect is that of social progress. The statics of society is the study of the conditions of existence and permanence of the social state. The dynamics studies the laws of its evolution. The first is the theory of the *consensus*, or interdependence of social phænomena. The second is the theory of their filiation.

'The first division M. Comte, in his great work, treats in a much more summary manner than the second; and it forms, to our thinking, the weakest part of the treatise. He can hardly have seemed even to himself to have originated, in the statics of society, anything new,* unless his revival of the Catholic idea of a Spiritual Power may be so considered. The remainder, with the exception of detached thoughts, in which even his feeblest productions are always rich, is trite, while in our judgment far from being always true.'

Passing from the consideration of Social Statics to Social Dynamics, Mr. Mill continues:

'Two questions meet us at the outset: Is there a natural evolution in human affairs? and is that evolution an improvement? M. Comte resolves them both in the affirmative by the same answer. The natural progress of society consists in the growth of our human attributes, comparatively to our animal and our purely organic ones: the progress of our humanity towards an ascendency over our animality, ever more nearly approached though incapable of being completely realized. This is the character and tendency of human development, or of what is called civilization; and the obligation of seconding this movement—of working in the direction of it—is the nearest approach which M. Comte makes in this treatise to a general principle or standard of morality.

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* 'Indeed his claim to be the creator of Sociology does not extend to this branch of the science; on the contrary, he, in a subsequent work, expressly declares that the real founder of it was Aristotle, by whom the theory of the conditions of social existence was carried as far towards perfection as was possible in the absence of any theory of Progress. Without going quite this length, we think it hardly possible to appreciate too highly the merit of those early efforts, beyond which little progress had been made, until a very recent period, either in ethical or in political science.'

'But as our more eminent, and peculiarly human, faculties are of various orders, moral, intellectual, and æsthetic, the question presents itself, is there any one of these whose development is the predominant agency in the evolution of our species? According to M. Comte, the main agent in the progress of mankind is their intellectual development. Not because the intellectual is the most powerful part of our nature, for, limited to its inherent strength, it is one of the weakest: but because it is the guiding part, and acts not with its own strength alone, but with the united force of all parts of our nature which it can draw after it. In a social state the feelings and propensities cannot act with their full power, in a determinate direction, unless the speculative intellect places itself at their head. The passions are, in the individual man, a more energetic power than a mere intellectual conviction; but the passions tend to divide, not to unite, mankind: it is only by a common belief that passions are brought to work together, and become a collective force instead of forces neutralizing one another. Our intelligence is first awakened by the stimulus of our animal wants and of our stronger and coarser desires; and these for a long time almost exclusively determine the direction in which our intelligence shall work: but once roused to activity, it assumes more and more the management of the operations of which stronger impulses are the prompters, and constrains them to follow its lead, not by its own strength, but because in the play of antagonistic forces, the path it points out is (in scientific phraseology) the direction of least resistance. Personal interests and feelings, in the social state, can only obtain the maximum of satisfaction by means of co-operation, and the necessary condition of co-operation is a common belief. All human society, consequently, is grounded on a system of fundamental opinions, which only the speculative faculty can provide, and which, when provided, directs our other impulses in their mode of seeking their gratification. And hence the history of opinions, and of the speculative faculty, has always been the leading element in the history of mankind.'

Here we come upon the famous *loi des troisétats* which has been received with great opposition from theologians and metaphysicians, whose modes of thought it sets aside as unfit for modern use; nor has it received an open welcome from men of science, whom, at first sight, it would seem most to flatter. The opposition of all the teachers now living, though it would retard, could not ultimately prevent, the reception of a law. If, therefore, Comte has really discovered a law—as many of us firmly believe—its acceptance is only a question of time. I merely note two general sources of the opposition of scientific men, both of them evils of our present condition to which Comte has frequently called attention: first, the *speciality* of most men of science, and the absence of large philosophical or general views; secondly, the patchwork of opinion commonly held by them is formed of loose floating notions of metaphysics side by side with theological dogmas and inductive generalisations, so that many a mind which has discarded theological and metaphysical explanations of physical and even biological phenomena, readmits them into Psychology or Sociology. To these causes of opposition must also be added the license men permit themselves of pronouncing confidently on questions they have not taken the preliminary trouble of understanding. Two-thirds of the objections urged against this law of the three stages are based on a radical misapprehension of it; and there is something quite comic in the gravity with which these misconceptions are advanced. *Non ragioniam di lor.*

The law does not assert that at distinct historical periods men were successively in each of the three stages, that there was a time when a nation or even a tribe was exclusively theological, exclusively metaphysical, or exclusively positive; it asserts that every class of conceptions man frames respecting the world, himself, and society, must pass through three stages, with varying velocity under various social conditions, but in unvarying order. Any one individual mind, inheriting the results of preceding generations, may indeed commence its thinking on some special topic, without being forced to pass through the stages which its predecessors have passed through; but every class of conceptions must pass through the stages, and every individual mind must more or less rapidly, in the course of its evolution from infancy to maturity, pass through them. These necessary stages Comte names the theological, the metaphysical, and the positive. Mr. Mill suggests, as less ambiguous, the terms volitional, abstractional, and experiential. The first is the spontaneous and primitive condition of thought; the second is a transition to the third, which is final.

All men are agreed, in these days, that real knowledge must be founded on observation. But no science could have its origin in simple observation alone; for if, on the one hand, all theories must be founded on observation, on the other, it is equally necessary to have some sort of theory before we address ourselves to the task of steady observation. If, in contemplating phenomena, we do not connect them by some principle, it would not only be impossible for us to combine our isolated observations, and consequently to draw any benefit from them; but we should also be unable even to retain them, and most frequently the important facts would remain unperceived. We are consequently forced to theorise. A theory is necessary to observation, and a correct theory to correct observation.

This double necessity imposed upon the mind—of observation for the formation of a theory, and of a theory for the practice of observation—would have caused it to move in a circle if nature had not fortunately provided an outlet in the spontaneous activity of the mind. Owing to this activity, it begins by assuming a cause, which it seeks outside the phenomena, i.e. a supernatural cause. As man is conscious that he acts according as he wills so he naturally concludes that everything acts in accordance with some will.

The spontaneous tendency is to animate the external world, because, since knowledge can only proceed from what is already known, the analogies suggested by consciousness are inevitably the first explanations of cosmical phenomena. This is the state of Fetichism: a state still to be noticed among children and savages. It passes by insensible degrees into Polytheism, and that again by a supreme effort of abstraction is replaced by Monotheism.

The second, or metaphysical, stage was a transition from this primitive to the final stage of positivism. It replaced the *supernatural* agent of the theological conception by a natural agent inherent in the objects themselves. It replaced the variable action of a *will* for the invariable action of an *essential cause*. In lieu of deities, it imagined entities.

Criticism subsequently discovered that these entities were simply personified abstractions. They then fell into such discredit that nowadays there may be some difficulty in comprehending how men of keen and meditative intellects could ever have mistaken abstractions for real existences capable of causing all the changes observed; yet nothing is more certain, and this History has exhibited abundant examples of it. Not only so, but many moderns who find it difficult to conceive that the great minds of the past could so far confound the names they gave to certain classes of facts with the essential causes of the facts themselves—could rely on an explanation which was in truth only a restatement of the facts to be explained—could passionately maintain that over and above the existing animals, which they saw, there existed an universal Animal, which they did not see, and that this Animal was the reality of which the individual animals were the passing shadows—many moderns who find this difficult to conceive are themselves so wedded to similar abstractions (that of a Vital Principle, for example) that they despise you as 'shallow,' or declaim against you as 'materialistic,' if you think otherwise.

In the final, or positive, stage, the mind relinquishes attempts to penetrate to the essence of things, to transcend the sphere of Experience, and pass into that of causes, first or final. Its aim is to explain the *how*, and leave unexplored the *why*. It desires to establish by observation and induction the Laws, or constant relations, and resigns itself to ignorance of the Agents.

One illustration must suffice here.* Men formerly believed, according to Oersted, that Basilisks lived in cellars which had long been shut up; they were invisible, and whomsoever they looked upon died. This is a typical specimen of the theological mode of explanation. I am not aware what metaphysical one replaced it, but in the spirit of that method I will suggest the following: *Cellarity*, when long pent up, is inimical to Life. The positive explanation, seeking in the known properties of things, discovers a deleterious gas, whose weight causes it to accumulate in low places unless driven away by supplies of fresh air, and this gas is a poison to anyone who breathes it.

The theological system arrived at the highest perfection of which it is capable when it substituted the providential action of a single Being for the varied operations of the numerous divinities which had been before imagined. In the same way, in the last stage of the metaphysical system, men substitute one great Entity (Nature) as the cause of all phenomena instead of the multitude of Entities at first supposed. In the same way, again, the ultimate perfection of the positive system would be to represent all phenomena as particular aspects of a single general fact—and to this the molecular theory seems now rapidly tending.

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* In my work on *Aristotle*, pp. 26–34, the law of the three stages is variously illustrated.

After this brief indication of the law, we may resume Mr. Mill's exposition:—

'The passage of mankind through these stages, including the successive modifications of the theological conception by the rising influence of the other two, is, to M. Comte's mind, the most decisive fact in the evolution of humanity. Simultaneously, however, there has been going on throughout history a parallel movement in the purely temporal department of things, consisting of the gradual decline of the military mode of life (originally the chief occupation of all freemen) and its replacement by the industrial. M. Comte maintains that there is a necessary connexion and interdependence between this historical sequence and the other; and he easily shows that the progress of industry and that of positive science are correlative; man's power to modify the facts of nature evidently depending on the knowledge he has acquired of their laws. We do not think him equally successful in showing a natural connexion between the theological mode of thought and the military system of society: but since they both belong to the same age of the world—since each is, in itself, natural and inevitable, and they are together modified and together undermined by the same cause, the progress of science and industry, M. Comte is justified in considering them as linked together, and the movement by which mankind emerge from them as a single evolution.

'These propositions having been laid down as the first principles of social dynamics, M. Comte proceeds to verify and apply them by a connected view of universal history. This survey nearly fills two large volumes, above a third of the work, in all of which there is scarcely a sentence that does not add an idea. We regard it as by far his greatest achievement, except his review of the sciences, and in some respects more striking even than that. We wish it were practicable in the compass of an essay like the present to give even a faint conception of the extraordinary merits of this historical analysis. It must be read to be appreciated. Whoever disbelieves that the philosophy of history can be made a science should suspend his judgment until he has read these volumes of M. Comte. We do not affirm that they would certainly change his opinion; but we would strongly advise him to give them a chance.'

It is now needful to consider whether Comte may rightfully be claimed as having created Social Science, or only, as Mr. Mill thinks, having rendered such a creation possible. To do this, we must first settle what is meant by the creation of a science. There is, I believe, only a difference in terms between Mr. Mill's position and my own; he would say that the defects in Comte's construction prevent it from being accepted as a science, though the route is opened for future investigators, and much of the country is mapped out. Admitting the defects to be as great as he supposes, though I think on some points a good defence may be made, I should only look on these *as* defects. No science is perfect, and the last and most complex of them all is, of course, the most defective of them all. What we have to consider is whether it is a science, and whether it is in such condition that, like all other sciences, it may indefinitely advance. We have seen that in the absence of Sociology the creation of the Positive Philosophy would have been impossible, since, then, *all* phenomena would not have been embraced; we have seen further that it was not only necessary that social phenomena should be included with cosmical phenomena in the Doctrine, but that these social phenomena should disclose their elementary laws, in other words, that Sociology should not only be a science but an Abstract Science. I will now endeavour to show that Comte transformed what before was Common Knowledge into Science, separated its elements from those of other sciences, and presented the Abstract Science of social existence claiming its place in the hierarchy.

Others before Comte, as Mr. Mill remarks, had a full conviction that social phenomena conform to invariable laws, and by discarding all theological and metaphysical explanations had adopted the positive attitude. Granted; but the positive attitude is not enough for Science; and no one will venture to assert that Montesquieu, Macchiavelli, Adam Smith, Bentham, or the political economists, had discovered the fundamental laws which constitute the science. They had not even distinctly conceived how the science itself should be distributed into statical and dynamical laws, the statical derived from Biology, the dynamical from History. They made several empirical generalisations, valuable as such, but no attempt to organise these into a science.

The universal mistake of social speculators was an attempt to deduce the phenomena from the laws of 'human nature,[*] i.e. to make collective phenomena the simple consequences of laws of the individual. Setting aside the metaphysical conceptions which were thus made a basis of deduction, and assuming that the true biological laws had been discovered and applied, we should still perceive that failure was inevitable, because social laws are not directly reducible to Biology. As Comte in one of his earliest publications remarks on this very point:—

'Sans doute, les phénomènes collectifs de l'espèce humaine reconnaissent pour dernière cause, comme ses phénomènes individuels, la nature spéciale de son organisation. Mais l'état de la civilisation humaine à chaque génération ne dépend immédiatement que de celui de la génération précédente, et ne produit immédiatement que celui de la suivante. Il est possible de suivre, avec toute la précision suffisante, cet enchaînement à partir de l'origine, en ne liant d'une manière directe chaque terme qu'au précédent et au suivant. Il serait, au contraire, absolument au-dessus des forces de notre esprit de rattacher un terme quelconque de la série au point de départ primitif, en supprimant toutes les relations intermédiaires.'[†] The error is as great as that of a physiologist who should attempt to deduce the state of manhood from that of infancy, without taking that of puberty into account.

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[*] COMTE: *Politique Positive, IV. Appendice*, p. 126; comp. also the passages p. 96 and 130, 131.

Not only did Comte see how social phenomena were to be distributed and studied in order to form a science; he saw the decisive point of separation between these and other phenomena which rendered the constitution of a separate science necessary. Precisely as Physics must be separated from Mathematics, because no extension of mathematical laws alone will suffice to explain physical phenomena; precisely as Chemistry must be separated from Physics, because in chemical phenomena there is, over and above the physical laws, the addition of laws of molecular affinity; precisely as Biology must be separated from Chemistry and Physics, because by no extension of physical and chemical laws can we deduce the special laws of organic life: so in like manner must Sociology be separated from Biology, because, over and above the phenomena of human nature, exhibited in the species, there is the important series of phenomena due to the collective activities of the race. History modifies the race.

By this conception Sociology was rendered possible, but not by this alone was the science constituted. Had Comte done no more than this, he would have held an analogous position to that of a biologist whom, before Bichât, we will imagine to have conceived that Biology could be rescued from Theology and Metaphysics, and constituted as a science, if Life were reduced to the elementary properties inherent in organic tissues. Obviously this would only have been one step towards the solution of the problem; the next step would have presented immense difficulties; it would have been to determine specifically what those properties were which the several tissues specially manifested. In like manner, Comte, having conceived that the collective phenomena of History must be separated from the individual phenomena of Biology, and having withdrawn them from the *regency of volition*, to place them under the *regency of law*, showing that they depended on conditions inherent in the successive stages of society, and not on providential interventions, first made a science of History possible, and next constituted it by discovering the fundamental law of evolution.

In order that the science should be constituted, the particular phenomena had to disclose their laws; and in order that it should be an Abstract Science, it was necessary that they should disclose their elementary laws. Otherwise we might have had a History of some particular people, but not a science of universal History, an Abstract Science, the laws of which would be rigorously applicable to all nations and all times, just as the laws of Biology are applicable in all climates and in all branches of the organic series.

Mr. Mill's statement of what constitutes a science is all that Comte's disciples require, namely, 'discovering or proving and pursuing to their consequences those of its truths which are fit to form the connecting links among the rest; truths which are to it what the law of gravitation is to astronomy, and what the elementary properties of tissues are to physiology.' And this we believe the law of the three stages is to Sociology. Mr. Mill accepts that law; and therefore it is that I venture to intimate that his doubts respecting Comte's claim may be mainly a question of terms. Those—and they are the majority—who refuse to accept the law may consistently reject the claim. I cannot here afford the space for a discussion of their objections, but content myself with saying that it is a law of History, and must be verified in History; it cannot even be comprehended, much less refuted, through subjective experience. Whoever will take the trouble to understand its meaning, and follow Comte's exemplification of it throughout History, will see how the superficial objections to it all disappear, as they disappear before the law of gravitation, which likewise needed an extensive and persistent verification before its truth became irresistible.

Having thus characterised the general aspects of the New Philosophy founded by Comte, I must refrain from any attempt to follow in detail what Mr. Mill justly calls 'that wonderful systematisation of the philosophy of all the sciences, from mathematics to physiology, which, if he had done nothing else, would have stamped him in all minds competent to appreciate it, as one of the principal thinkers of the age.' There are portions, of course, which the advance of Science has rendered antiquated, and portions it has rendered unacceptable; but we shall seek in vain through the writings of his predecessors, even in special departments, for anything comparable to the solid and luminous exposition of the philosophy of each subject, and its position in human evolution. The student is advised to master and patiently meditate the successive chapters in which the philosophy of Mathematics, Physics, Chemistry, Biology, and Sociology, is expounded; and, thus fortified, he will be prepared to meet the objections which assail the Doctrine from various quarters. Meanwhile two points imperatively demand our attention, because they are urged by a positive thinker of the highest eminence, and because they assail the integrity of the Doctrine: these are, 1st, the absence of Psychology from the hierarchy of the sciences; 2ndly, the absence of a method of Proof. Without saying where he would admit these sciences, so as to reconstruct the hierarchy, Mr. Mill insists on their omission as a defect. I am the less inclined to undervalue the force of these objections because at one time I fully accepted the first, and still waver respecting the second.

When Mr. Mill says that Comte rejected psychological observation, properly so called, as an invalid process at least in regard to intellectual operations, and that 'he gives no place in his series to the science of Psychology, and always speaks of it with contempt,' there is both truth and error in the criticism. It is true that Comte did regard internal observation as an illusory process. This is a question of Method, on which I agree with Mr. Mill in thinking Comte greatly mistaken, owing to his contempt for the only psychological investigations he was acquainted with, and to his justifiable disregard of the pretended 'œil interne.' But it is not true that Comte discarded psychological observation; he only disclaimed for it a double organ, external with regard to one class of facts, and internal with regard to another. However, it must be admitted that his ideas on this subject were not perhaps very clear, and that he had paid but little attention to the results of psychological analysis. Considering how very far professed psychologists are even yet from any definite and consistent Method, this is not a serious charge against him.

But when it is said that he gives no place to Psychology in his series, a question of Doctrine is raised, namely whether he was or was not justified in refusing to Psychology the position of an abstract and independent science? On this question I retract the adhesion which many years ago I gave to Mr. Mill's point of view, and pass over to that of Comte. It then seemed to me that on the principles of positive classification Psychology ought to be separated from Biology, just as Biology was separated from Chemistry; in each case the separation was necessitated by the *speciality* of the phenomena treated. I now see the erroneous appreciation which misled me. The confusion in my mind (let me not include others in the reproach) was the confusion of the subsidiary question of Method with the dominant question of Doctrine, and, as a consequence, an imperfect appreciation of biological phenomena. Thus because Comte was wrong respecting one of the means of psychological research (subjective analysis) and spoke with undiscriminating contempt of Psychology (meaning really nothing but the unscientific farrago about *le Moi*), and because I saw that Psychology was a possible science of great value, having a special instrument in Consciousness, I was led to dissent from him, and agree with Mr. Mill in claiming for it an independent position. Further meditation, however, disclosed that it is one thing to recognize Psychology as a science, another thing to assign it a place in the hierarchy of Abstract Sciences. It may be a Concrete Science, as Physiology and Botany are; but it is derived from the Abstract Science of Biology, and can only be consistently separated from it by those who hold that psychical phenomena are in essence distinct from vital phenomena. What I had hastily classed as special in psychical phenomena was a conventional speciality, arising from the conventional restriction of biological phenomena, and the unphilosophic practice of biologists, who had left all the higher functions to be treated by metaphysicians. That this was a serious error a moment's consideration will disclose. Biology is the science of Life; among the manifestations of living organisms we distinguish, for our convenience, the vegetal from the animal functions, what are called vital from what are called psychical phenomena; but no biologist supposes that this distinction is real, that an animal organism has two independent vitalities, or that the psychical functions are not part and parcel of the organic activities, determined by the structure and condition of the organs; above all no biologist supposes that his science would be complete if from the circle of vital phenomena all the sensitive, emotive, volitional, instinctive, and intellectual phenomena were excluded. The parallel between Chemistry and Biology entirely fails. Chemistry deals with the phenomena of molecular combination; the phenomena of Life are superadded to these, and this superaddition constitutes a new science. The laws of Chemistry would remain precisely what they are if all organisms were destroyed: neither more nor less. But psychological phenomena are no superaddition to the phenomena of Life, they are themselves vital: and although we may conceive a Biology restricted to Plants, and comprising only vegetal functions, this withdrawal of animal organisms would profoundly affect the constitution of Biology, by robbing it of a class of important laws. In other words, since every general science of Life necessarily includes *sensitive* no less than *nutritive* functions, any conception of Biology which excluded the sensations, instincts, and intellections would be monstrously truncated.

Comte was therefore fully justified in refusing to truncate Biology by removing from it one important class of vital phenomena; he would have erred against his own principles had he erected the concrete, derivative science of Psychology into an Abstract Science holding its place in the hierarchy. We may cheerfully give up his views as to how Psychology should be studied, without giving up an essential element in the Positive Philosophy—without creating a place for Psychology independent of, and equivalent to, Biology. We cannot forget that all psychical phenomena are phenomena of Sensibility, and are reducible to neural processes, actions of the organism.

There is, indeed, a Philosophy which takes a very different view, teaching that sensation, emotion, ideation, are not directly functions of an organism, but are the activities of an entity living within the organism, a life within a life, having, with the organism it inhabits, only points of contact, none of community. I will not here discuss the pretensions of this Philosophy; I only say it is not the Positive Philosophy. The answer to Mr. Mill may therefore be summed up thus: either psychical phenomena are biological phenomena, in which case Psychology is a branch of Biology; or psychical phenomena are essentially different from biological phenomena—the special actions of a special agent or combination of agents—in which case Psychology claims a separate place among fundamental sciences.

Dr. Bridges,* in his letter to Mr. Mill, after noticing the restricted sense in which Comte spoke of Psychology, adds, 'If by Psychology be meant the study, by every means that are available, of the moral and intellectual functions of man, it is very certain that Comte was a psychologist, though he naturally avoided a word which connected him with a contemporary school of metaphysicians. With regard to the impossibility of studying the purely intellectual functions by the method of self-observation, Comte adopted, it is true, the opinion of Broussais so vigorously stated in his treatise *sur l'Irritation et la Folie*. It is possible that these thinkers may have rejected the method too absolutely. But it must be shown to be far more fruitful in results than it has yet proved, before it can rank very high as an instrument for the discovery of truth. The study of the intellectual and moral functions was prosecuted by Comte throughout his life, and that on methods not, I imagine, materially different from those which you would adopt.'

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* *The Unity of Comte's Life and Doctrine: A Reply to Strictures on Comte's later Writings, addressed to J. S. Mill, Esq., M.P.* By J. H. Bridges, M.D. 1866.

M. Littré grapples more directly with Mr. Mill's objection. He begins with an important distinction between the study of the faculties and the study of the products of those faculties. 'According to Comte there is no Psychology beyond the domain of Biology; according to Mr. Mill, Psychology forms an ensemble of notions which cannot be explained by Biology. What shall I say to this, when at the outset I remark a confusion, which I must clear up before pronouncing? The confusion is that the word Psychology sometimes comprehends the cerebral faculties and sometimes the products of those faculties. If the question is of the faculties, I side with M. Comte; if the question is of the products, I side with Mr. Mill.' He proceeds to show that whatever relates to the faculties, either as to their analysis or to their classification, everything which relates to the functions, or the modifications impressed on them by external influences, belongs of right to Biology; and as such it is treated by Comte. The fact that there is a Psychology of animals decisively refutes the notion of the independence of this study of the faculties; the intelligence, affections, and instincts of animals being clearly biological questions.

'These explanations,' he adds, 'show that M. Comte committed no error in placing under Biology the study of Psychology, if by the latter we understand the intellectual and affective faculties; but if we also understand by it Ideology, and even Logic, then the reproach has quite another aspect.' M. Littré selects as an illustration of the distinction between faculties and products, the case of Language. Recent researches, he says, have given almost a demonstration of the existence of such a faculty in one of the anterior convolutions of the cerebrum. 'That is a decisive case of cerebral physiology—a definite function assigned to a definite organ; but if the faculty of Language belongs to Biology, this cannot be said of Grammar, which is a product of the faculty.' Other examples might have been added. The faculty, or faculties, of Music belong to Biology, but counterpoint has no such place. Ideology, Logic, Ethics, Æsthetics, are products, and, as products, have no place in the series of Abstract Sciences which constitute the positive hierarchy, though one and all of them may be very important special sciences. 'Leur théorie générale n'est pas plus partie intégrante de la philosophie positive que ne le serait la théorie générale du langage et de la grammaire, et vraiment pourquoi ne pas réclamer en faveur de celle-ci, fort considérable assurément, si l'on réclame en faveur de celles-là.'

We will now turn to the second objection. 'The philosophy of a science,' says Mr. Mill, 'consists of two principal parts; the methods of investigation and the requisites of proof.' I pause here to remark that although he is at perfect liberty to construct his own definitions, and conform to them, he is not at liberty to make them the standard for Comte, and to object to the Positive Philosophy because it does not conform to such a standard. As a critic of a system, he is bound to accept its definitions, not to apply his own. In the present instance, a positivist would say that Mr. Mill's definition is one which describes the logic, not the philosophy, of a science. I do not remember any express definition proposed by Comte, but the following is the one I should construct from his exposition: 'The philosophy of a science is constituted by the co-ordination of the fundamental Laws of the phenomena within the domain of the science—the Methods by which those Laws are discovered,—and the relation which the science bears to the one which precedes and the one which succeeds it in the encyclopædic hierarchy; in other words, its position and degree of influence in human development.'*

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* M. Littré proposes the following:—'La philosophie d'une science est la conception de cette science par co-ordination des faits généraux ou vérités fondamen-

This difference of definition being indicated, we may consider what force there is in the objection urged by Mr. Mill. He sees two requisites:—'The one,' he continues, 'points out the road by which the human intellect arrives at conclusions; the other, the mode of testing their evidence. The former, if complete, would be an Organon of Discovery; the latter, of Proof. It is to the first of these that M. Comte principally confines himself, and he treats it with a degree of perfection hitherto unrivalled. Nowhere is there anything comparable in its kind to his survey of the resources which the mind has at its disposal for investigating the laws of phenomena; the circumstances which render each of the fundamental modes of exploration suitable or unsuitable to each class of phenomena; the extensions and transformations which the process of investigation has to undergo in adapting itself to each new province of the field of study; and the especial gifts with which every one of the fundamental sciences enriches the method of positive inquiry, each science, in its turn, being the best fitted to bring to perfection one process or another. These and many other cognate subjects, such as the theory of Classification and the proper use of scientific Hypotheses, M. Comte has treated with a completeness of insight which leaves little to be desired.'

The praise is emphatic enough, and authoritative enough, to satisfy even disciples, but it is succeeded by the statement of a grave defect. 'We are taught the right way of searching for results, but when a result has been reached, how shall we know that it is true? How assure ourselves that the process has been performed correctly, and that our premises, whether consisting of generalities or of particular facts, really prove the conclusion we have grounded on them? On this question M. Comte throws no light; he supplies no test of proof. As regards deduction, he neither recognises the syllogistic system of Aristotle and his successors—the insufficiency of which is as evident as its utility is real—nor proposes any other in lieu of it; and of inductions he has no canons whatever. He does

tales qui y appartiennent.'—*Revue des Deux Mondes.* (This article has since been reprinted as a pamphlet: *Auguste Comte et Stuart Mill.*)

not seem to admit the possibility of any general criterion, by which to decide whether a given inductive inference is correct or not. He maintains that no hypothesis is legitimate, unless it is susceptible of verification, and that none ought to be accepted as true, unless it can be shown not only that it accords with the facts, but that its falsehood would be inconsistent with them. He, therefore, needs a test of inductive proof; and, in assigning none, he seems to give up as impracticable the main problem of Logic, properly so called.'

The objection is formidable; if admitted, it would be fatal, —a system which was without a criterion would have the radical vice which dissolves every metaphysical construction. Happily this is not the case with the Positive Philosophy. A deficiency, I admit, exists, but it is not one having the reach assigned to it by Mr. Mill. A system of Philosophy must somewhere have a place for Logic, and Comte has not indicated the place it should occupy. But the omission does not deprive the system of a criterion; it only deprives us of a ready mode of exhibiting the criterion. Logic is the codification of the rules which the various sciences have employed and must employ. It is the grammar of science. The author of incomparably the best work on Logic is naturally alive to the importance of this codification; and we who have profited so largely by the work, are not likely to underrate it. Nevertheless, when the integrity of Positivism is in question there is doubt permissible whether the plan followed by Comte does not, as M. Littré suggests, furnish an equivalent to the legal sanction of Logic. Mr. Mill thinks not; but that may be because he misapprehends the plan:—He says, 'Method, according to M. Comte, is learnt only by seeing it in operation, and the logic of a science can only be usefully taught through the science itself.' The plan is wider; it is the combination of the hierarchy of the sciences with their methods, so that each science in turn furnishes its own criterion; thus the logic of each science is serially exhibited, and all that is wanting is the codification of the whole, an abstract science of Proof.

If Logic is the codification of the rules of experience, its utility as codification may be admitted. But the code does not introduce any new validity. It shows what the rules are; it does not furnish a test deeper than the rules themselves. Comte was not imperatively called upon to supply a test of truth more valid than experience; nor could Logic have supplied such a test. Mr. Mill declares that the final test is the universality of the law of causation. But no one has shown more conclusively that the law of causation is itself a generalisation of experience. M. Littré, therefore, asks, 'How do we know that a general proposition in science is true? By showing that in every case experience confirms it. If exceptions arise, we either sacrifice it or modify it. Our most assured inductions are only accepted under the control of constant verification, and no sanction which Logic can give them removes this relative character or adds anything to their certainty.'

Although Comte neglected to codify the rules of Proof (a neglect which has been amply remedied by Mr. Mill), he did not by any means or in any department neglect Proof. He gave the rules in giving the Methods of Research; and in this portion of the philosophy of each science he elaborated the logic peculiar to that science. As he says, 'Le vrai régime positif ne sépare jamais la logique de la science. Car en n'étudiant chaque partie de la méthode inductive qu'avec *les doctrines qui l'ont spécialement suscitée*, on sent aussitôt que son usage doit toujours être conforme aux notions fondamentales que cette science reçoit de la précédente.'*

While defending Comte, I have also to add that although Logic is to Science what Grammar is to Language, and both should be taught *pari passu* with their examples, there is still a need for a general Logic or Methodology, as for an Universal Grammar or Philosophy of Language; and this need Comte sometimes seems to have felt. 'Puisqu'il est toujours absurde,' he says, 'd'enseigner la méthode séparément de la doctrine, il faut utiliser toutes les occasions où l'on peut tirer de l'exercice scientifique une saine instruction logique.'* But where this Methodology should be placed, whether as an Abstract Science at the close of the series, or as a division of Anthropology, he has left for others to determine.

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* *Politique Positive*, i. 518.

This, then, is the Positive Philosophy: the extension to *all* investigations of those methods which have been proved successful in the physical sciences—the transformation of Science into Philosophy—the condensation of all knowledge into a homogeneous body of Doctrine, capable of supplying a Faith and consequently a Polity.

The positive mode of thought is that which must rule the future. This is an induction from all History, which shows that only three modes have existed, and that they have everywhere exhibited the same law of mutation, the theological once dominant being gradually supplanted by the metaphysical, and the metaphysical in turn gradually giving way to the positive. One by one the various groups of phenomena have fallen under the positive rule, and as each group received its scientific character it freed itself more and more from the influence of Theology or Metaphysics, the perfection of each science being accurately measured by the completeness with which these influences have been eliminated.

But although the course of History unequivocally consecrates the Positive Philosophy, and although we see in the ever accelerated advances of Science the accumulative preparations for the new Doctrine, we must not confound the general spirit with the special result. We may accept the positive spirit, and all the positive sciences, without accepting the Philosophy which Comte has evolved from them. I myself accept that Philosophy, and I do not know of any other general Doctrine which is to be placed beside it. But there are many positive thinkers who either do not feel the need of a Doctrine, or do not see how at present it is to be constructed; men who think that the several sciences are enough, without a general Philosophy to knit them together; and men who are dissatisfied with Comte's synthesis, though unable to propose a better. Thus it is that there is still a vast mass of unorganised positivism which the future will have to organise. What may be said at once of the Philosophy is that it *is* a systematization, more or less perfect, of actual knowledge, a general doctrine capable of embracing all knowledge. This is its distinctive character. 'Tant qu'Auguste Comte n'a pas paru,' says M. Littré, 'le champ de la spéculation générale appartient à la théologie ou à la métaphysique, et celui de la spéculation particulière à la science. Quand il a paru, les positions sont interverties; la spéculation scientifique devient générale, et la théologie et la métaphysique deviennent particulières, c'est-à-dire, qu'elles ne se montrent que comme des étages de l'histoire de l'esprit humain.' *

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* *Politique Positive*, ii. 443.

More than once the phrase 'systematization of all knowledge' has been used, and designedly, for the province of Positivism is strictly limited to what can be known; and it is this very circumscription which has provoked the deepest antagonism. Affirming that since we cannot *know* the origins and ends of things—first and final causes being, from the constitution of our faculties, inaccessible to us—we ought stringently to exclude them from our Philosophy, which is concerned solely with what can be known, Positivism by no means denies the existence of such causes, it simply denies that by invoking them we can gain any insight into the laws of phenomena. Neither affirming nor denying their existence, it contents itself with asserting that they have not been made cognisable to our minds; and although it is permissible to every man to indulge in any phantasies he pleases, it is not permissible to introduce these into Philosophy. It is no use asking for better bread than can be made of wheat. The limitations of human knowledge may be irksome to some impatient spirits—and are usually so to those who have not had patience enough to master much of what *is* known — but Philosophy pretending to no wider sweep than that of human faculty, and contented with the certainties of experience, declares the search after first and final causes to be a profitless pursuit.

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* LITTRÉ: *Auguste Comte*, p. 99.

## § III. Transformation of Philosophy into Religion.

It is neither consistent with the plan of this History, nor with the few pages still at my disposal, to give an exposition of the speculations which Comte produced during his second period. That his Philosophy rapidly became transformed into Religion, has already been noticed; also that the transformation caused a schism among his disciples, one party affirming that he had forsaken the positive Method, and was untrue to his own teaching; the other party affirming that the later developments were perfectly consistent with the earlier speculations, and that his whole life had been the one work of founding a Polity on the basis of a demonstrated Faith.*

The later works, namely the *Politique*, the *Catéchisme*, and the *Synthèse Subjective*, form a group by themselves, which, whether they are, or are not, necessary developments of the Philosophy, in nowise affect the integrity of that system of thought; a system that may be accepted by those who do not feel the need of the Religion, and by those who do not think that Comte has succeeded in the transformation. There are thus two separable doctrines associated with his name; the fervent adherents of the one being sometimes only partial adherents of the other, and sometimes even its open antagonists.

Such questions must be debated elsewhere. For myself I will only say that in spite of my veneration for Comte, and my growing sympathy with his views, I have never been able to accept the later works as more than magnificent efforts to construct an Utopia, which differs from all previous Utopias in having the past life of Humanity as its warrant.

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* See Littré's work on Comte, and Dr. Bridges' *Letter to J. S. Mill.*

I think his attempt at systematization was premature: failure was inevitable, because polities must grow, they cannot be made—and by him the laws of growth were disregarded. The Method he employed is one which the Positive Philosophy emphatically condemns; and his large use of subjective fiction, permissible in an Utopia, is disastrous elsewhere. On these grounds of Method and premature systematization, I am forced to separate myself from him, to question some doctrines and reject others, which if they were put forth merely as suggestions might be fertile in influence. Generally it may be said of these later works that had they been avowed as Utopian—as the visions and suggestions of a meditative mind anxious to impart to others the thoughts which rose in it—their immediate operation would have been incomparably greater, because their profoundly moral and ennobling spirit, and their reach of suggestion, would have gained the sympathy of many who are roused to antagonism by what they consider the arrogance of a claim to finality, and the danger of an attempt at practical enforcement of ideas not rationally sifted. It is one thing to listen to a philosophic proposal, to carry it in our thoughts and see how far it will clear up difficulties, how far it is or is not compatible with experience; another thing to listen to a preacher who propounds his visions as laws. As a great teacher, Comte's simple indications would have been received with the respect which was their due. As a pontiff, he forced us to scrutinize severely the validity of every proposition he put forth. We could all admit the deep importance of his efforts to exalt every demonstrated truth into an element of Religion, making all studies religious by disclosing their higher aim, so that even Mathematics might become a part of Morality; we could see that he was thus calling on us to do consciously what from the first mankind has been doing unconsciously, namely, to make every insight into the truth of things a rule of conduct. But the very principle here in operation teaches a cautious reserve. We must be thoroughly convinced of a truth before we erect it into a rule of conduct. Now it is certain that many of Comte's ideas, even on fundamental questions, are very far from having the evidence requisite for conviction; and however grateful we may be to him for his suggestions, we are by no means ready to regard them as laws.

Thus much it was needful to say respecting the attitude of many who on the whole regard Comte's later speculations with sympathy, as the efforts of an individual to anticipate the work of future generations. The history of his ideas he has narrated in the preface to the first volume of the *Politique*; and although it may be somewhat coloured by the after glow, its substantial truth will be recognized by all who read his early essays, or meditate the first and final chapters of the *Philosophie*. Nothing can be more evident than that from the first his aim was to construct a Polity on the basis of Science. This Polity did not at first wear the aspect of a Religion, but the transition was inevitable. A Doctrine which furnished an explanation of the world, of man, and of society, which renovated education, and organized social relations, above all which established a Spiritual Power, was in all its chief functions identical with a Religion. 'Les positivistes sont aujourd'hui,' he said, 'les seuls qui, plaçant le problème spirituel avant la recherche temporelle, fondent la réorganisation industrielle sur la rénovation intellectuelle et morale. Tous les autres réformateurs s'accordent au contraire à régler immédiatement la société matérielle sans avoir aucunement discipliné les opinions et les mœurs.' The discipline of opinion is to be effected by the Philosophy which furnishes a common Faith, in furnishing a homogeneous explanation of the external order of existences; the discipline of conduct is to be effected by a religious conception of our duties. This conception of our duties naturally emerges from a consideration of the laws of social evolution, since 'l'avenir que nous voulons préparer résulte essentiellement d'un passé que nous ne pouvons changer.'

The Positive Religion claims to resume and complete all previous Religions, just as the Positive Philosophy resumes and completes all previous Philosophies. It resembles them in purpose, it differs from them in having a basis of demonstrated truth. Widely as the various creeds may be separated, they are essentially combined by Positivism, which considers each in reference to its local and temporary destination, as the expression of one stage of human evolution. 'Il n'existe au fond qu'une seule religion à la fois universelle et définitive, vers laquelle tendirent de plus en plus les synthèses partielles et provisoires, autant que le comportaient les situations correspondantes.' No sooner was the religion of Humanity distinctly conceived than the history of Religion seemed suddenly illuminated, as the story of one aim becoming more and more definite: everywhere the same tendency was observable: everywhere the ideal of *human* nature usurping more and more of the province primitively assigned to supernatural powers: the gods, always exaggerations of human powers and passions, became more and more personifications of what was most admirable and loveable in human nature, till, in Christianity, there emerged the avowed Ideal Man.

It is therefore an ungenerous and misplaced reproach so often sneeringly cast upon Comte that he has enriched his religion by incorporating largely the elements of Christianity. It is because Christianity was the highest and latest development of religious thought, and because it brought into preeminence the human element contained in all religions, that it was the effectual preparation for a religion of Humanity. Comte therefore, whose aim it was to extricate from the whole past experience of the race whatever was in harmony with the development of our higher nature, could not but largely incorporate Christian teaching in his own synthesis. And thus it is that apart from certain metaphysical doctrines—very lightly held by most minds—there is little in the conceptions of the most enlightened Christian which is not identical with Positivism; or, conversely, there is little in Positivism which Christians do not or cannot cordially accept in all that relates to this life. The main distinction lies in this, that Positivism leaves less influence to the avowedly selfish motives.

Unhappily Comte did not confine himself to preaching a noble moral doctrine, but irritated his antagonists and perplexed his admirers by a variety of particular prescriptions, which gratified his love of systematization. These are regarded as absurd or worse; and the public, ever ready to fasten upon details and to neglect essentials, quarrel over these particular prescriptions, declaim against them, and laugh at them, as if the Religion of Humanity meant nothing more. It is the spectacle constantly before our eyes: in the squabbles about Ritualism men forget that they are Christians.

Two things every Religion must do if it is to endure: it must satisfy the intellect, and regulate the feelings. To satisfy the intellect, it must furnish an explanation of the world and society such as enables us to understand, and by understanding to modify, the External Order to which our existence is subordinate. To regulate the feelings it must furnish an explanation of man, such as enables us to understand, and by understanding adapt ourselves to the Internal Order which constitutes the moral life. How far Positivism at present answers to such demands is a matter for debate. That it claims to answer them is enough to arrest serious attention. So much is clear: that whenever the present intellectual anarchy is replaced by a common Faith, whenever men have a system of beliefs respecting the universe and their relation to it, which resting on demonstration admits of no dispute, then—alas! the prospect seems far distant—will arise a Polity which also will admit of no dissent. Then will Philosophy be transformed into Religion.

Meanwhile anarchy continues, and the Faith is slow in spreading.

# CONCLUSION.

HITHERTO the History of Philosophy has been that of a long period of preparation. A new era dawns with the transformation of Science into Philosophy. Henceforward History will record development, not revolution—convergence of effort, not conflict. Each science has had its period of preparation, during which knowledge was accumulated, but no presiding conceptions gave unity to researches, no fixed methods enabled all men to assist in building one temple. Then came the change: each science was 'constituted,' separated from Common Knowledge, and the efforts of all labourers were convergent, the development was continuous. The constitution of the Positive Philosophy closes the period of preparation, and opens the period of evolution. It is far, very far from complete as a Doctrine. It will have to undergo many enlargements and modifications, advancing with the progress of discovery, and adapting itself flexibly to all the changes of scientific knowledge. But while it will thus need and will absorb the labours of future generations, it will continue in the same path, undisturbed by conflicts of principles.

This prophecy is not made in forgetfulness of the fact that at present the doctrine has no very extensive acceptance, and that even positive thinkers are not always willing to accept it. Hipparchus and Bichât found lukewarm adherents among the astronomers and biologists of their day, and fierce antagonists among the philosophers; but the rolling years brought light into men's minds; and the Positive Philosophy will force its way to empire, in spite of sceptics and opponents. It must do so, because its only rivals are Theological Philosophy and

Metaphysical Philosophy, and these, after a long reign, have irretrievably lost their supremacy in every department where they have been confronted with Science. No sooner was this victorious Science transformed into a Philosophy than the rivalry was virtually at an end. Thus, although Comte may come to be as antiquated as Hipparchus, and as far behind the knowledge of the day as Bichât now is, the Positive Philosophy will henceforth reign undisturbed.

In the story which these pages have told, there has been something like a demonstration of the incompetence of the Method upon which all metaphysical inquiries proceed. The urgent need of the Positive Philosophy was thus made apparent. If the past points to the necessity for a homogeneous and all-embracing Doctrine, what indications are there in the present of a speedy realisation of that aim? To answer this question, a volume might profitably be employed. In the few pages still at command, I can only briefly touch on it.

In France, at first sight, the signs seem unfavourable, since what little speculative activity exists there (out of Science) is markedly opposed to the positive spirit. The reaction against the 18th century still continues, and 'Materialism' is still the bugbear erected to warn men away from positive tendencies. In Germany, on the other hand, the old spiritualism is daily falling into discredit, and what are called materialistic opinions are rising into popularity. Nay, even in England there is no mistaking the strong current towards positive ideas, in spite of our theological impatience of whatever can be stigmatised as Materialism.

Materialism is an ugly word, which *connotes* certain opinions of very questionable validity held by some writers, and opinions both silly and immoral which are wantonly *attributed* to these writers by rash and reckless polemists. Be their opinions, however, what they may, the materialists have at least this important advantage, that they strive to get rid of all metaphysical entities, and seek an explanation of phenomena in the laws of phenomena. Their doctrine may be, as I think it is, truncated and imperfect; words and vague generalities are too often made to supply the place of distinct conceptions; but the opinions should be refuted as false, not denounced as dangerous. Research is arduous enough without our obstructing the path with bugbears. If materialistic opinions are erroneous, they are dangerous to the extent of their erroneousness; whereas most men declare these opinions to be erroneous because they believe them to be dangerous. Against this mode of warfare philosophers are bound to protest. It is an effective mode, and therefore should be condemned. Men may, unhappily, be frightened from the truth and cajoled into error;* and in France the cajolery has been openly avowed, Victor Cousin frankly appealing to the 'patriotism' of his audience in favour of 'nos belles doctrines.'

The reaction against the Philosophy of the Eighteenth Century was less a reaction against a doctrine proved to be incompetent than against a doctrine believed to be the source of frightful immorality. The reaction was vigorous, because it was animated by the horror which agitated Europe at the excesses of the French Revolution. Associated in men's minds with the saturnalia of the Terror, the philosophical opinions of Condillac, Diderot, and Cabanis were held responsible for the crimes of the Convention; and what might be true in those opinions was flung aside with what was false, without discrimination, without analysis, in fierce impetuous disgust. Every opinion which had what was called 'a taint of materialism,' or seemed to point in that direction, was denounced as an opinion necessarily leading to the destruction of all Religion, Morality, and Government.

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* M. TAINE, in one of his vivacious sallies notices the small importance the public attaches to pure reasoning: 'Attaquez une psychologie par une psychologie, vous convaincrez quatre ou cinq esprits solitaires, mais la foule vous échappera. Au contraire, proclamez bien haut que si l'on continue à croire vos adversaires, Dieu, la vérité, la morale publique sont en danger: aussitôt l'auditoire dressera les oreilles: les propriétaires s'inquiéteront pour leur bien, les fonctionnaires pour leur place; on regardera les philosophes dénoncés avec défiance; par provision on ôtera leur livre des mains des enfants; le père de famille ne laissera plus manier à son fils un poison probable.'—*Les Philosophes Français du XIXième Siècle*, p. 5.

Every opinion which seemed to point in the direction of spiritualism was eagerly welcomed, promulgated, and lauded; not because it was demonstrably true, but because it was supposed capable of preserving social order. And indeed when, looking back upon those times, we contemplate the misery and anarchy which disgraced what was an inevitable movement, and dimmed what was really noble in the movement, we can understand how many generous hearts and minds, fluctuating in perplexity, did instinctively revolt not only against the Revolution, but against all the principles which were ever invoked by the revolutionists. Looking at the matter from this distance we can see clearly enough that 'Materialism' had really no more to do with the Revolution than Christianity had to do with the hideous scenes in which the Anabaptists were actors; but we can understand how indelible was the association of Revolution with Materialism in the minds of that generation.

So profoundly influential has this association been, that a celebrated surgeon of our own day perilled his position by advocating the opinion, now almost universally accepted, but then generally shuddered at, that the brain is the 'organ' of the mind. He had to retract that opinion, which the pious Hartley and many others had advanced without offence. He had to retract it, not because it was scientifically untenable, but because it was declared to be morally dangerous.

The history of the reaction in France is very instructive but it would require more space than can here be given adequately to narrate the story.* Four streams of influence converged into one, all starting from the same source, namely, horror at the Revolutionary excesses. The Catholics, with the great Joseph de Maistre and M. de Bonald at their head, appealed to the religious sentiments; the Royalists, with Chateaubriand and Madame de Staël, appealed to the monarchical and literary sentiments; the metaphysicians, with Laromiguière and Maine de Biran, and the moralists with Royer-Collard, one and all attacked the weak points of Sensationalism, and prepared the way for the enthusiastic reception of the Scotch and German philosophies. A glance at almost any of these writers will suffice to convince the student that their main purpose is to defend morality and order, which they believe to be necessarily imperilled by the philosophy they attack. The appeals to the prejudices and sentiments are incessant. Eloquence is made to supply the deficiencies of argument; emotion takes the place of demonstration. The hearer is charmed, roused, dazzled. He learns to associate all the nobler sentiments with spiritualistic doctrines, and all grovelling ideas with materialistic doctrines; till the one school becomes inseparably linked in his mind with emotions of reverence for whatever is lofty, profound, and noble, and the other with emotions of contempt for whatever is shallow and unworthy. The leaders of the reaction were men of splendid talents, and their work was eminently successful. But now that the heats of controversy have cooled, and all these debates have become historical, we who look at them from a distance can find in them no philosophical progress, no new elements added which could assist the evolution of Philosophy, and form a broader basis for future monuments. In political and literary history these attempts would claim a conspicuous position; in the History of Philosophy they deserve mention only as having made mankind aware of the limited nature of the eighteenth-century philosophy, and its extraordinary *lacunæ*. Their office was critical, and has been fulfilled.

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* The reader may consult on this topic DAMIRON, *Essai sur l'Histoire de la Philosophie en France au XIXième Siècle*; and TAINE, *Les Philosophes Français du XIXième Siècle.*

One doctrine, and one alone, emerged from these attempts, and held for some time the position of a School. It made a noise in its day, but even the echoes have now become almost inaudible. A feebler doctrine scarcely ever obtained acquiescence; we must nevertheless bestow a few sentences on it to make our story complete. Eclecticism is dead, but it produced some good results, if only by the impetus it gave to historical research, and by the confirmation it gave, in its very weakness, to the conclusion that an *à priori* solution of transcendental problems is impossible. For Eclecticism was the last product of philosophical speculation, the gathering together of all that philosophers had achieved, and the evolution from these separate achievements of one final doctrine,—which final doctrine is itself rejected.

Victor Cousin and Thomas Jouffroy are the chiefs of this School: one a brilliant rhetorician utterly destitute of originality, the other a sincere thinker, whose merits have been thrown into the shade by his brilliant colleague. As a man of letters, M. Cousin deserves the respect which attends his name, if we except the more than questionable use which he has made of the labours of pupils and assistants without acknowledgment. However, our business is not with Cousin, but with Eclecticism. Royer-Collard introduced the principles of the Scotch school, to combat with them the principles of Sensationalism. Reid and Stewart were translated by Jouffroy, explained and developed by Royer-Collard, Jouffroy, and Cousin. The talents of these professors, aided by the tendency towards any reaction, made the Scotch philosophy dominant in France. But Victor Cousin's restless activity led him to the study of Kant:—and certain doctrines of the 'Königsberg sage' were preached by him with the same ardour as that which he had formerly devoted to the Scotch. As soon as the Parisians began to know something of Kant, M. Cousin started off to Alexandria for a doctrine: he found one in Proclus. He edited Proclus; lectured on him; borrowed some of his ideas, and would have set him on the throne of philosophy, had the public been willing. A trip to Germany in 1824 made him acquainted with the modern Proclus—Hegel. On his return to Paris he presented the public with as much of Hegel's doctrines as he could understand. His celebrated Eclecticism is nothing but a misconception of Hegel's *History of Philosophy*, fenced round with several plausible arguments.

Gifted with great oratorical power, flattering the prejudices and passions of the majority, tempted as most orators are to sacrifice everything to effect, and incapable, from native incapacity or from defective training, of gaining any clear insight, Victor Cousin by his qualities and defects rose to an eminence which was regrettable, because it overshadowed the efforts of nobler minds. He was the source of philosophical patronage, and he filled the chairs of France with professors who were his adherents, or who dared not openly expose his weakness. The consequence was, that, being crassly ignorant of Science, he kept Philosophy aloof from all scientific influences. The progress of centuries was ignored, and the methods of Scholasticism were once more brought into vogue. A painful cant of 'question begging' eloquence supplied the place of research. The clear, precise genius of France was for a time ashamed of its clearness, and in sheer terror of being thought superficial and immoral rejected the aid of Science, and went maundering on about *le Moi, l'œil interne, l'Infini, le Vrai, le Beau, et le Bien* in a pitiable manner.

In Germany, once the land of Metaphysics, the tendency has for some time past been decidedly in favour of the positive sciences. Even the younger Fichte makes it his boast that his philosophy never quits the sphere of reality, and always follows the inductive method. The *à priori* road is abandoned. Ontology finds few cultivators, and Psychology calls itself a *Naturwissenschaft*, and very strenuously seeks to discover the organic mechanism of thought.* The break up of the Hegelian school was coincident with the popularity of the Herbartian, or what may be called the school of mathematical metaphysicians; and the disciples have mainly distinguished themselves by their assaults on the *à priori*

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* Among the most remarkable works are Waitz: *Lehrbuch der Psychologie als Naturwissenschaft*, 1849; Lotze: *Medicinische Psychologie*, 1852; Fechner: *Elemente der Psychophysik*, 1860; Wundt: *Vorlesungen über die Menschen und Thierseele*, 1863; Wundt: *Beiträge zur Theorie der Sinneswahrnehmung*, 1862; and the researches of Helmholtz: *Handbuch der physiologischen Optik*, 2nd edit. 1867. Some of the results of German psychological investigations will be found lucidly presented in J. D. Morell's *Introduction to Mental Philosophy on the Inductive Method*, 1862.

Method, the destruction of which is the necessary prelude to Positivism. Fichte the younger tells us that 'since the systems which aimed at the attainment of absolute knowledge have died out, and the Kantian maxim *that we can only comprehend truth as it stands in relation to human nature* has been reintroduced, it has become evident that all philosophical problems must be placed under the control of psychology. This is the essential character of that German speculation which has sprung up since the times of Schelling and Hegel. . . . We do not mean that any particular psychological doctrine (whether that of Kant, Fries, or Herbart) has been *finally* established, but simply that the science of the human mind and the laws of its intelligence must be made the universal starting point of philosophy.'*

If we examine the psychological writings of the day, we shall be struck with the change which has come over German Philosophy, since even the writers who are still hampered by metaphysical trammels are surprisingly eager to borrow all the aid they can from Science, while one and all see the absolute necessity of detecting in mental phenomena the determining physiological processes. And this tendency is still more visible in the outburst of Materialism which took place some fifteen years ago, recalling the old days of theological controversy.

In 1852, Moleschott, the physiologist, published a remarkable book, *Der Kreislauf des Lebens*, mainly directed against Liebig's physiological errors. It describes in graphic and popular style the 'circle of matter' from the mineral world to the vegetal world, and from the vegetal to the animal, and from the animal to the psychical world. The psychical? Even so. Moleschott is a frank materialist, admitting no realities but Matter and Force, as two inseparable ideas. All the phenomena of Life and Mind he relegates to the changes of Matter. In his celebrated chapter on Force, he attacks the old metaphysical conception of Force (*Kraft*) as an independent Entity, reducing it simply to the properties of Matter. As we know Matter only through its properties, and never know the properties in the absence of Matter, the conclusion is 'kein Stoff ohne Kraft, keine Kraft ohne Stoff: no Matter without Force, no Force without Matter.'

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* J. H. FICHTE: *Contributions to Mental Philosophy*. Translated by J. D. MORELL, 1860, p. 88.

The book created an uproar. In the same year, Karl Vogt, the celebrated naturalist, published his *Bilder aus dem Thierleben*. Many who forgave Vogt's red republicanism in consideration of his researches in Embryology, especially of the salmon tribe, were startled out of their tolerance when they found him, in an essay on the souls of animals, declaring that men are only animals, and that 'thought stands in the same relation to the brain as the bile to the liver.' Of course he meant nothing so extravagant as the words imply; and he afterwards declared that his meaning simply was the meaning generally accepted respecting thought as a function of the brain. But, like Proudhon's pistol shot—*la propriété c'est le vol*—the noise of this formula startled the world. The essay was unhappily one unworthy of such a man as Vogt: flippant and fragmentary, it could only serve to exasperate, not to convince. Nevertheless, so ready were men's minds to be stirred on this subject, that even this slight concussion hastened the general outbreak, and Rudolph Wagner (May 1853) wrote a letter to the newspapers, confessing that he discontinued the publication of his *Physiologische Briefe* because of the 'uproar and disgust' excited by his denunciation of Materialism, and by his unpopular views on the relations of Faith and Knowledge.

The uproar continued, and in 1854 Wagner declared his intention of discussing the question of a 'special soul substance' at the Göttingen Congress of physiologists. The challenge was gladly accepted by Ludwig; and Congress was alive with expectation. But Wagner was either too unwell to attend, or, as opponents aver, shrank from the discussion. At any rate it was quite clear that he would have found small support: 'The reader may form a conception of the intellectual tendencies of men of science on this question when he reflects on the fact that among five hundred persons present, not one single voice was raised in favour of the spiritualistic philosophy.'*

In the same year Wagner appealed to the wide public in an essay on Faith and Knowledge (*Glauben und Wissen*), in which he declared that in matters of Faith he thought with the poorest charcoal-burner, but in matters of Knowledge he adopted all the results of science. Vogt was roused. He replied in a terrible pamphlet: 'The Creed of a Charcoal-burner versus Science' (*Köhlerglaube und Wissenschaft*, 1855). This was succeeded by Büchner's famous 'Matter and Force' (*Kraft und Stoff*), which rapidly ran through seven or eight editions, and was for a time the 'best abused' book in Europe. Soon afterwards came Czolbe's *Neue Darstellung des Sensualismus*, which may be called the *Système de la Nature* of the nineteenth century. I cannot here enumerate the books and pamphlets which appeared on this subject; much less give any exposition of their views. It is enough to note the fact of the conflict, because even the most considerable opponents of Materialism, such as Wagner, Lotze, and Fichte, were quite willing to discuss the question on purely scientific grounds; and if they opposed the materialist school, it was because they saw, and I think justly saw, the failure of that school to give a satisfactory solution either of cosmical or psychical problems.

The intellectual ferment was beneficial. The materialists claimed and received a wide-spread sympathy in their efforts to root out the lingering Scholasticism, which obstructed Science and prevented the elaboration of a true Philosophy. They were applauded also for their resistance to official orthodoxy and compromise. They pointed to the inanity of ontological systems, and called upon men to enter fearlessly on the path of objective inquiry. They popularised many of the results of Science. It was a great gain to the majority, even of scientific men, and still more of philosophers, to learn, as they learned from Dubois-Reymond * and Moleschott, that Force was not an Entity which ruled passive Matter, but that 'both were abstractions from things, each completing the other, each presupposing the other.' Force is the dynamical aspect of Matter, and Matter is the statical aspect of Force.

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* *Deutsches Museum*, edited by Prutz, 1854, No. 47.

But while the public, impatient of Metaphysics, sympathised with this spirit, and applauded its revolutionary fervour, cautious, circumspect men of science could not but object to a rough-and-ready mode of settling intricate questions, which left all the essential difficulties untouched. They felt that only a first step had been taken in getting rid of the metaphysical entities; and that not much advantage was gained when these were replaced by mere phrases.

It is the sense of unexplained difficulties which keeps many scientific minds from adopting Materialism, even when they sympathise with the leading purpose of the materialists. In the cosmical discussion we need but a slight acquaintance with the results of Philosophy to be aware that all the phenomena are as legitimately held to be phenomena of Consciousness as phenomena of Matter, and that we know *nothing* of either Matter or Spirit except as postulates. In the psychological discussion we need but a more thorough application of the biological Method to disclose that the materialist view is quite as imperfect as the spiritualist view. If the hypothesis of a spirit is merely the introduction of a misleading phrase, which pretends to explain the phenomena by naming them, not less unphilosophical is the introduction of the famous formula respecting the brain as the organ of the mind, unaccompanied by any clear statement of what an 'organ' is, or what is included under the complex term 'mind.' If 'mind' is the collective name for a large group of functions, sensitive, emotive, intellective, and active, Biology rejects altogether the exclusive assignment of these functions to the brain, and declares that to call the brain the organ of the mind is about as legitimate as to call the heart the organ of life. If the brain is regarded simply as one of the factors in mental manifestations, the most important it may be, then Biology demands that the mechanism be displayed, and that the cerebral processes on which mental actions depend be exhibited in some such orderly connection as that which displays the part played by the intestinal canal in digestion, or the osseous and muscular structure in locomotion. Has any one done this? No one has attempted it. Materialism is powerful in as far as it invokes the Methods of Science, and proclaims the old scholastic habits of thought unsuited to our age. The sympathy it has excited, in spite of its narrowness, is a sign of the times; and when we couple with it the visible decay of all metaphysical systems, and the visible extension of Science, we cannot doubt that in Germany also the Positive Philosophy must ere long prevail, being as it is the only system which can embrace all tendencies and furnish a homogeneous Doctrine of the world, society, and man.

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* DUBOIS-REYMOND: *Untersuchungen über thierische Electricität*, 1848, i. 38.

Nor are the signs less hopeful in England. An impatience of Metaphysics has long existed—an impatience not always, indeed, grounded on a clear recognition of the reasons which justify it, but sustained by the observation of repeated failure on the part of Metaphysics, and of increasing success on the part of positive Science. A painful degree of insincerity, and an uneasy alacrity in catching at any compromise which may for the nonce 'accommodate' the radically incompatible conclusions of Theology and Science, have always been, and continue to be, exhibited. Men wish to think, or wish the world to believe they think, that both Theology and Science may be true; meanwhile they steadily refuse to give up Science, and, at whatever cost to consistency, the tendency towards a thorough adoption of the positive point of view is manifestly growing. Metaphysics is out of court. Neither word nor thing finds favour. Ferrier's *Institutes of Metaphysics*, one of the most remarkable books of our time, is like a lonely obelisk on the broad flat plain: there are not even cairns beside it. The one great metaphysician who has formed a school, Sir William Hamilton, energetically disclaimed all the pretensions of Ontology, and devoted himself to the explanation of the conditions of knowledge. His influence, aided by that of Mr. Mansel and others, has been purely destructive. If these distinguished writers are indisposed to adopt the positive point of view, they have at least effectively prepared for its future adoption by their demonstration of the futility of metaphysical speculation.

Turning from the Hamiltonian school to the thinker who has exercised the deepest and widest influence on our generation, Mr. Stuart Mill, we see an unmistakable illustration of the tendency of English thought to set aside theological and metaphysical explanations as no longer in harmony with present knowledge. Mr. Mill is a declared adherent of the Positive Philosophy: though not regarding that Philosophy as by any means perfect, nor disposed to accept every conclusion put forward by Comte, he has recognised the truth of the leading principles, and has largely contributed to their diffusion. It is characteristic of our condition that to the vast body of cultivated Englishmen his *Logic* has sufficed for all their instruction in Philosophy. The very celebrity of that work absolves me from further notice of it in this rapid sketch.

Another eminent thinker of the positive school is Professor Bain, who has restricted himself to Psychology, but whose writings display a thorough mastery of scientific Method, and a familiarity with all the sciences. In *The Senses and the Intellect* (2nd edit., 1864), and *The Emotions and the Will* (2nd edit., 1865), he has availed himself of all that has been discovered respecting the nervous mechanism, and has interpreted it by the light of patient psychological analysis. His pages are rich in information and suggestion. No one has more successfully exhibited the evolution of intellect even in the earliest phenomena of sensation: in Sensibility he displays the germ of Discrimination, and in Discrimination the germ of all Cognition. Nor has any one thrown such steady light upon the nature of voluntary movements and the physiological process on which they depend.

It is a matter of regret to me that my space will not admit a fuller account of these works, which assuredly will make an epoch; but I may point to one general conclusion bearing on my present argument, and it is this: The one department of inquiry still in favour which belonged of old to Metaphysics is the department of Psychology, and in this the only cultivators who have a large following are positive thinkers, namely, Professor Bain and Mr. Herbert Spencer.

The last-named writer is one daily rising into wider influence. In spite of the internecine warfare between his principles and the theological and metaphysical principles officially admitted, even antagonists are compelled to admit the force and clearness of his genius, the extent and profundity of his scientific knowledge. It is questionable whether any thinker of finer calibre has appeared in our country; although the future alone can determine the position he is to assume in History. At present he is too close to us for an accurate estimate; and, moreover, to this end his system should be before us in its entirety, whereas only two parts—*First Principles* (1862) and *The Principles of Biology* (1864–7)—have as yet appeared.[*] He alone of British thinkers has organised a System of Philosophy. Seeing that he adopts the positive Method, is thoroughly imbued with the positive spirit, and constructs his system solely out of the positive sciences, one cannot but raise the question, What is his relation to the Positive Philosophy? This question becomes the more pertinent because Mr. Spencer has on several occasions expressed his dissent from Comte's views, sometimes indeed exaggerating the amount of difference in vindicating his unquestionable originality, and implying an antagonism which does not exist. Even if I thought Mr. Spencer always in the right where he opposes Comte (and I am very far from thinking so), I should still claim him as a puissant ally of the Positive Philosophy, which is something greater than Comte—it is the product of all History. This Philosophy will undergo many and important modifications; the whole tendency of Molecular Physics as now cultivated is one which must finally introduce such modifications. Mr. Spencer may impress on its details important changes, but he will nevertheless no more disturb the integrity of the Positive Philosophy than Schwann by his cell-theory, or Dubois-Reymond by his discovery of the muscular currents, disturbed the integrity of Biology. Comte was the first to create that Philosophy, as Bichât created Biology: successors may gradually displace many of the provisional ideas out of which these creations were formed, but the Method and the general structure will remain unalterable.

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[*] Mr. SPENCER's other works are *Social Statics* (1851), *Principles of Psychology* (1855), two volumes of *Essays*, a small volume on *Education*, and a pamphlet on *The Classification of the Sciences.*

Mr. Spencer is unequivocally a positive philosopher, however he may repudiate being considered a disciple of Comte. His object is that of the Positive Philosophy—namely, the organisation into a harmonious Doctrine of all the highest generalities of Science by the application of the positive Method, and the complete displacement of Theology and Metaphysics. The peculiar character he impresses on it by his thorough working out in detail of the Law of Evolution gives a special value to his system; but the Positive Philosophy will absorb all his discoveries, as it will absorb all future discoveries made on its Method and in its spirit; rejecting certain *à priori* and teleological tendencies which he sometimes manifests, and disregarding his failures as it disregards the failures of Comte and every other seeker.

Am I claiming too much for the Positive Philosophy in claiming for it whatever the future may produce? To claim it for Comte would indeed be preposterous; but to claim it for that Philosophy which it is Comte's immortal glory to have extricated from the products of all the past, is only to claim it for HUMANITY.

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